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DEVELOPMENT AND FUTURE OF THE SECTION ON NERVOUS AND MENTAL DISEASES

CHAIRMAN'S ADDRESS

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Before considering the formation and the subsequent evolution of the Section on Nervous and Mental Diseases, it is worth while to consider briefly the development of the concept of sections as a whole. When the American Medical Association held its 12th meeting at Louisville, Ky. in 1859, Dr. J. B. Lindsley of Tennessee moved that a committee of three be appointed by the President of the Association to inquire into and report upon the propriety of dividing the Association into sections, "for the purpose of performing such parts of its scientific labor as may relate to the practical branches of medicine and surgery." At this early date in the history of the American Medical Association it was obvious that the scientific programs could be more specifically activated by the division of labor according to the lines of medical interest. The motion of Dr. Lindsley was adopted, and the next day at the meeting Dr. Lindsley recommended that sections be set up on: (1) anatomy and physiology, (2) chemistry and materia medica, (3) practical medicine and obstetrics, and (4) surgery. Later the same day, Dr. H. F. Campbell moved that two sections be added: one on meteorology, medical topography, and epidemic diseases and the other on medical jurisprudence and hygiene. While the Section on Medical Jurisprudence was provided for in the 12th meeting of the Association in 1859, there is no record of its organization until 1865, even though there are references here and there in the minutes of the American Medical Association that papers were referred to this committee. In 1865 the Section on Anatomy and Physiology was abolished and became the Section on Medical Jurisprudence, Physiology, and Hygiene. In 1873 the sections were reorganized and this section became that of medical jurisprudence, chemistry, and psychology. In 1879 the section again was changed and was merged with the Section on State Medicine. In 1883 it was the Section on Medical Jurisprudence, but this was for only a short time and after two years again lapsed. In 1885, Dr. H. S. Campbell, the President of the American Medical Association, recommended in the concluding remarks of his address that consideration be given to the reorganization and the rehabilitation of the Section on Forensic Medicine. By the motion of Dr. Callendar of Tennessee the title was changed to the Section on Medical Jurisprudence and Neurology.

In 1886 the section was again reactivated under the title of Section on Neurology and Medical Jurisprudence. At this time Dr. John P. Gray of Utica, N. Y., was prominent in the resurrection of the section and the combination of psychiatry and neurology was evident in his address, "Psychological Medicine and Nervous Diseases." Dr. Gray died on Nov. 30, 1886, and his activity in this section was therefore short lived. In 1891, the American Medical Association planned for the organization of the National Medical Association under the new constitution and bylaws of this national organization. The eighth of the sections listed was that of medical jurisprudence and neurology. Note that at that time neurology played a role second only to medical jurisprudence; however, in the meeting that same year, this title was reversed and the section became the Section of Neurology and Medical Jurisprudence. Dr. Corothers of Hartford, Conn., was the chairman of the Section in the year 1891, and in his chairman's address he discussed the early psychic symptoms of traumatic brain disease. Thus was emphasized the correlation between the various disciplines that later evolved into this section.

The following year, 1892, the Section of Neurology and Medical Jurisprudence was strongly organized. Dr. Harold M. Moyer of Chicago was chairman and for his address planned to discuss the organization and work of this Section of Neurology and Medical Jurisprudence. However, just prior to the delivery of the chairman's address, the Association, in its general meeting, set forth the policy of each section developing its own executive committee. This autonomy for the Section was apparently Dr. Moyer's goal, and therefore, he did not deliver the prepared paper. Instead he informed the Section of the

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resolution adopted by the Association, and dwelt briefly on the development of the Section. Dr. Moyer himself chose the year 1885 as the point of origin of the Section. In view of the confusing early development of the Section, the opinion of Dr. Moyer regarding the year of origin is particularly valid. Since this date coincides with the first specific reference to our specialties in the title of the Section, it is acceptable and we can consider 1885 as the year of origin of this section. The peculiar liaison between neurology and medical jurisprudence was not particularly happy, and as early as 1897 there were recommendations before the Section to change the name and a tendency toward the elimination of the medical jurisprudence in the title. A historical résumé of the Section was presented by Dr. Hugh Patrick of Chicago on July 28, 1900, in his chairman's address. Dr. Patrick's paper reviewing the section work up to that time succeeded in bringing about the divorce of neurology from medical jurisprudence. He pointed out that the peculiar alliance of neurology and medical jurisprudence was brought about by jealousy among officers of other sections who feared that, if a nervous and mental disease section was set up, much of the good material appearing in their sections would drift into a new section, thus the development of the Section on Medical Jurisprudence and Neurology was a compromise situation. Dr. Patrick pointed out that, of the 444 papers presented before the Section up to that date, only 64 were concerned with jurisprudence; and, of these 64, 39 related to medicolegal relations of nervous and mental affections and therefore rightly belonged before a section on nervous and mental diseases. Dr. Patrick pointed out that the great strength of the Section lies in neurologists and alienists and that medical jurisprudence is only secondary. At this meeting in 1900, the name of the Section was altered to the Section on Nervous and Mental Diseases and has since remained the official title. There was one recent period when an attempt was made to change this to the more modern terminology of Section on Neurology and Psychiatry. This was not felt adequate, because it deleted from the title one group of our colleagues, the neurosurgeons, and also because the present name has a wider appeal and attracts physicians outside our specialties.

This attempted change also pointed out the unique position of our section. There is no other nationwide forum where the three groups of specialists interested in the diseases of the nervous system meet together for their common good as well as for the exposition of their common knowledge before other physicians. The neurologists, neurosurgeons, and psychiatrists have no other national society that includes equally all three groups. This has been true since the development of these fields as separate entities. The Section has always been strongly medical-neurological in its orientation; however, with the evolvement of neurosurgery as a separate discipline, that field came more and more into its own. The greater development of psychiatry after World War I was evidenced by the appearance of an increased number of psychiatry papers on the program.

The autonomy of the Section has been threatened only once. This was in 1916 when the Board of Trustees raised the possibility of absorbing the Section into that of general medicine. This caused a 2 day acrimonious discussion that wove in and out of the scientific session and was apparently sufficiently strong to offset the threat. In 1917 the number of sessions was determined at three per meeting, with a total number of papers of six per session. This has been the pattern ever since. At that time, however, there was some disappointment and annoyance, for the meetings of the session were apparently quite leisurely, carried from 40 to 50 papers, and often extra sessions were held in the evenings to accommodate papers that could not be read during the day. In 1948 there was a possibility of the Section being reduced from three sessions to two per meeting. This possibility was forestalled, however, because of the need to accommodate three specialty groups and because the attendance in the Section had increased, or remained stationary, while attendance in other sections tended to decrease.

FUNCTION OF THE SECTION

We have, up to this time, considered the early formation of sections and the evolution of the Section on Nervous and Mental Diseases; now we turn to some consideration of the role played by this section in medicine. The Section has two main purposes. The first is the dissemination of scientific knowledge, and the second is the judicious use of its influence for the development and maintenance of those fields of medicine with which it is primarily concerned. The most obvious of these two roles is that of dissemination of scientific knowledge; we shall consider that first.

The dissemination of scientific knowledge by the Section is primarily directed toward two groups; first, those that are intimately working in the field of diseases of the nervous system and, secondly, those physicians whose prime interests lie elsewhere. The Section on Nervous and Mental Diseases is not a specialty society. There is adequate representation elsewhere for such societies. There are at least five neurosurgical societies, two major national neurological societies, and the over-all psychiatric society, in addition to the various psychiatric societies representing the various divisions within the total field of psychiatry. It is, therefore, not necessary for the Section to consider itself as taking the place of, or competing with, any of these specialty organizations. It is justifiable to consider the Section as a specialty society only in the sense that it brings together the three specialties as outlined before, and because it serves as the only single forum for all three divisions.

Of far greater importance, from the standpoint of dissemination of scientific data, is the relationship of this section to the physicians in other fields. Our greatest single obligation is to present to specialists in other fields, and even more to the general practitioner, those advances in our own field, the validity of which we stand assured. This, therefore, influences the type of program it is necessary for the Section to propose. It is, of course, important that there be some new and experimental work which will satisfy the interests of the specialists in our field. It is, however, equally important that there be laid before men in other fields, and especially our colleagues in general practices, a background of stable, solid data in our

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specialties. This material must be proved by time, yet not so much time must have elapsed that the data are readily available elsewhere. This calls for a peculiar balance between the new and the tried, but not hackneyed, remedies and concepts.

In reviewing the topics presented before this section from 1886 up to and including the meeting for 1952, I have been impressed by the timeliness of many of the papers, their durability after the passage of many years, and the paucity of subsequently disproved data. A good example of the timeliness of articles is the presentation in 1913, by Dr. B. W. Sippey, of the validity of colloidal gold solution studies of the cerebrospinal fluid. This was just one year after the original description of the technique. The paucity of subsequently disproved data is indicated by the rarity with which one finds papers such as that on the 1937 program presenting a glowing report on the results of vitamin therapy in muscular dystrophy. The privilege of the secretary of the Section to hold and observe the books of the Section carries with it the intimate opportunity to glance over the development of our field. In 1938, when Dr. Paul Bucy was secretary, he noted three stars in the secretary's book in front of the paper by Dr. Merritt and Dr. Putnam on the use of diphenylhydantoin sodium in epilepsy. The good judgment of Dr. Bucy on the validity and greatness of that paper and the fact that after 15 years diphenylhydantoin sodium is still a mainstay in the treatment of epilepsy are good indications of the durability of the types of papers presented on this program.

Turning now to the second function of our section, we note the Section on Nervous and Mental Diseases and its predecessors have also always maintained a firm interest in the activities of the American Medical Association itself and with various broad policy aspects in the field. We are indebted to the Section for its forthright action in many things. In 1894 the members of the Section were concerned with the problems of institutionalization for alcoholics and recommended that each state construct an asylum for the care of inebriates. In 1918, the Section recommended to the American Medical Association that, in view of the great development of the field of nervous and mental diseases, the American Medical Association undertake to publish a special journal devoted to the field. This resolution was brought before the House of Delegates and gave rise to the publication of the *Archives of Neurology and Psychiatry*, which subsequently became the *A.M.A. Archives of Neurology and Psychiatry*. In 1919, under the leadership of Dr. Patrick, the Section promptly sent a resolution to the Trustees of the American Medical Association thanking them for the organization of the new journal. The promptness with which this section has leaped into action was evident as far back as 1913, when a paper was presented by Dr. C. D. Camp of Ann Arbor, Mich., regarding the presence of seizures and paresis in railroad engineers. The Section immediately went on record as opposing the driving of railway trains by epileptics or paretics and sent this resolution on to the Trustees of the American Medical Association. In 1933, the Section demonstrated concern over the incidence of congenital syphilis and recommended that steps be taken to procure serologic tests in all pregnant women. Not only the general welfare problems have been considered and activated by recommendations sent to the House of Delegates but the Section has been willing to serve in advisory capacities, and thus in 1941 a committee was appointed for one year to aid the committee of the A.M.A. Council on Industrial Health. The work of the foundations and of lay organizations has not gone unheralded. In 1937, on the recommendation of Dr. Hans Reese, a resolution of gratitude was sent to the foundations from the field of psychiatry in appreciation for the interest they had shown in research and mental illness. In 1948, the Section requested that the A.M.A. recognize the Multiple Sclerosis Society for its efforts as a voluntary health organization. While caution must always be exercised by organized medicine in dealing with governmental agencies, the Section in 1946 evinced interest in having the U. S. Public Health Service activate programs in the field of nervous and mental diseases. Of major importance is the role of the Section in the development, in 1931, and the subsequent maintenance of the American Board of Psychiatry and Neurology, Inc. The Section evinced interest in the plan proposed by the National Board of Medical Examiners for specialty examinations in the field of neurology and psychiatry, and in December, 1933, a committee met to form this board. This was under the chairmanship of Dr. Walter Freeman of the A.M.A. Section Committee. The committee from this section played a major role in the formation and early charting of the course of the board. In recent years, the Section has been concerned with the problem of crediting clinical psychologists and the committee of the Section under the chairmanship of Dr. Francis Gerty and later under Dr. Daniel Blain, has dealt with this major problem. The complex ramifications of this have been great, as indicated in the committee reports, and involve not only the clinical conclusions but also legal ones.

CONTRIBUTIONS OF THE THREE SPECIALTIES

We turn now to the role played by each of the three constituent specialties in the development of this section and the role played by the Section in the development of these three specialties. The programs of this section mirror the advancement in these fields. This indicates that the Section and the specialties have served each other well. Neurosurgery is the youngest of the three specialties to have evolved as a separate discipline, and so the appearance of papers primarily neurosurgical was at a later period than in the other two fields. The first appearance of a neurosurgical paper on the program of this section was in 1893, when Dr. John B. Deaver of Philadelphia described the surgical treatment of tic douloureux. The next neurosurgical paper was in 1900, when Dr. H. H. Hoppe of Cincinnati reported on seven patients with brain tumors who had undergone exploration. In 1906 Dr. Allen Starr of New York reviewed the status of neurosurgery. Crucial papers in the neurosurgical field that have appeared on the program before this section are those of: Harvey Cushing, the "father of neurosurgery," in 1922, Dowman and Smith of Atlanta, Ga., on false localizing signs of brain tumors, in 1930, Percival Bailey, on sphenoid ridge meningioma, in 1933, and Speigel and his collaborators, on stereoencephalotomy, in 1951.

The full-fledged development of neurosurgery is evidenced by the turning over of more and more of the time of the Section to neurosurgery, so that since 1948 a just portion of the program, one-third, is devoted to the field of neurosurgery. The quality of the neurosurgery papers has always been excellent, and this portion of the program has become a pillar of strength. The progress of psychiatry is indicated also by the development of the section programs. In the early days of these programs, matters concerning alienists and the problems of medical jurisprudence comprised the bulk of the program. Later, the frank psychoses associated with fever, syphilis, and childbirth became a more and more prominent part of the picture, and gradually the neuroses themselves appeared in the framework of the programs. Interestingly, one of the early papers on neuroses was that of Dr. Weisenberg of Philadelphia, who was primarily a neurologist. The psychoanalytic movement exerted influence continually in this section, although papers of psychoanalytic interest have not been a predominant part of the psychiatric program. The earliest paper dealing with psychoanalytic concepts was that on the subconscious mind by Clark Bell of New York, in 1897. It is interesting that the greatest attendance at the Section in recent years was for the paper by Dr. Leo Bartemeier on the attitude of the physician, in 1950. This in itself is healthy, for it implied that our section not only served in the exposition of the specialty but, from the broad base of psychiatry, could carry before the physician the implications of his obligation.

Various drastic therapy procedures in use in psychiatry have been adequately and frequently reviewed before this section, and thus in 1937 there was a symposium on the prefrontal area with particular reference to prefrontal lobotomy and in 1937 a symposium on insulin shock therapy. In addition to these symposiums, in 1930 Bleckwenn presented before the Section the first data on the use of amobarbital (Amytal) sodium injections in the therapy of psychosis, and the same year Neyman discussed artificial fever therapy for the psychoses. In 1938, Dr. Hans Reese critically evaluated the insulin shock and pentylenetetrazol (Metrazol) shock therapy, and in 1950 the status of transorbital lobotomy was presented and discussed before this section.

Neurology, of course, has always been the mainstay and the center core of the Section. This is by tradition, since it was early known as a Section on Neurology, and, as we have noted before, medical jurisprudence was more or less tagged on by the action of other sections. Neurology has gone through recession and renascence during the years since 1886. The type of program in itself indicates this quite well. The preoccupation with nosologic classification was evident, of course, in the period of the classification era of neurology. One need only go back through the papers of that era and find classic descriptions, for example, Archibald Church's paper on neurology of cervical ribs, which was read in 1919. These earlier programs were primarily on diagnostic neurology, although Charles Mills, when he read a paper on some experience in neurological therapeutics, received no discussion whatsoever of the paper. The sad state of neurological therapy at that time is evidenced by Dr. Mills' concern of the Perkins metallic tractors and the suspension treatment of locomotor ataxia. Dr. Mills sharply observed that neurologists and surgeons were prone, without due consideration of principles, to have recourse to procedures that could not possibly be of any practical service. Among these he included the short circuiting operations on the bowel for epilepsy, craniectomy for imbecility and idiocy, and the nerve stretching procedures for various painful situations. Therapy in neurology has taken an increasingly prominent place in our programs in recent years, so that now approximately one-half of our papers are devoted to therapy. This is, of course, as it should be, for medical neurology has now ceased to be primarily a diagnostic consultative service. The neurologist is no longer wrapped in the glamour of attaching men's names to the patients' symptoms, packing his kit, and walking away from the bed. He is a physician and is interested in therapy, including rehabilitation.

In this modern renascence of neurology, epilepsy plays a prominent role. This is to medical neurology what infectious diseases are to internal medicine. The prominence of epilepsy in the programs of the Section is evident. The first paper dealing with epilepsy appeared in 1891, and, in almost every program since, there has been at least one paper concerned with some aspect of epilepsy. This first paper on epilepsy was by Trowbridge and Mayberry of Danville, Pa., and dealt with status epilepticus. A peculiarly prescient paper in the field of epilepsy was that of Sanger Brown of Chicago in 1895, dealing with disorders of sleep and automatisms in epilepsy. While the treatment of epilepsy has been considered in almost every meeting in recent years, the interest in therapeutics has not been limited to the convulsive field.

In recent years, there have been critical evaluations of the treatment of (1) myasthenia gravis (Dr. N. S. Schlesenger, 1951), (2) Parkinsonism (Dr. R. W. DeJong, 1953), and (3) cerebral vascular accidents (Dr. Clark Millikan, 1952), to mention but a few. The neurological portion of the Section, however, has not become completely preoccupied with therapy, and the alertness of the Section was again shown when in 1936 there appeared a symposium on alpha potentials of the brain. This appearance on the program of papers on electroencephalography so soon after the discoveries of Berger indicates the good judgment of the officers in 1936, for they must have been almost prescient to have realized that this field was definitely here to stay. In 1940, the Montreal group of investigators, guided by Dr. Wilder Penfield, brought before the Section the status of electroencephalography in head injuries, and in 1941 there was an over-all review of electroencephalography by Frederick A. Gibbs. Since that time, electroencephalography has not been treated as such, for it has attained its majority and the threads of electroencephalography are woven into the over-all pattern, as, for example, by Dr. A. Earl Walker on the surgical treatment of epilepsy (1949), and by Dr. William G. Lennox on the hereditary factors in epilepsy as indicated by electroencephalography (1950). This maturation of electroencephalography, fostered by our section, reached its full bloom in the recent International Congress of Electroencephalography and Clinical Neurophysiology in Boston in August, 1953. Before leaving the field of neurology, an interesting note is that

the first paper on aphasia before this section was in 1892. The author of that paper is still living and is the venerable centenarian from Cincinnati, Dr. Philip Zenner.

FIELD OF NERVOUS AND MENTAL DISEASES

Putting aside the three disciplines and their treatment as separate entities and turning now instead to the whole field of nervous and mental diseases, the Section has been duly interested in the various aspects of the total system, and history has evoked the interest of other chairmen and authors on the American Medical Association section program. In 1937 Dr. Henry Viets and in 1947 Dr. Stanley Cobb presented historical reviews of the field of neurology. Dr. Throckmorton, in 1941, reviewed the life and works of a former chairman, F. X. Dercum; and Dr. Henry Woltman, in 1934, rendered a historical account of Sir Charles Bell. In 1946, Dr. Percival Bailey, for his chairman's address, presented his critical review of the practice of neurology. Former chairmen have summarized the philosophies of each group, as, for example, Francis Gerty in psychiatry (1949), and Roland McKay in neurology (1945).

The interest in neurophysiology in this section has been strong over the last two decades. In 1934, John Fulton's school of cortical physiology presented a résumé of the physiological benefits in the field of cortical localization, and, in 1938, Larsell and Dow presented their data on the physiology of the cerebellum. The role of electroencephalography in the Section has already been discussed. The chief neuroanatomic contribution in recent years was that of A. R. Vonderahe, who in 1948 succinctly presented the role of anatomy in modern neurology. In the field of neuropathology, the contributions of the late George B. Hassin have been prominent before this section, beginning in a paper with Peter Bassoe in 1919, on epidemic encephalitis, and culminating in his chairmanship paper in 1933, on the circulation of the spinal fluid. The very first paper presenting microscopic pathological data was presented before this section in 1891, on a tumor of the pons, by Dr. L. Hektoen of Chicago.

This section not only has been concerned with its own fields, neurology, neurosurgery, and psychiatry, but has spent considerable time in working on boundaries between our specialties and other fields. In recent years there have been joint sessions, as in 1939, with the Section on Pathology and Physiology. This symposium was devoted to the vitamin deficiencies. In 1940 there was a joint session with opthalmologists, and an important contribution before this was that of Dr. Halstead and Dr. A. E. Walker, pointing out that macular sparing definitely could occur in hemianoptic field defects. In 1942 the problems of poliomyelitis and the problems common to the fields of neurology and orthopedics were discussed in a joint symposium. However, the boundaries between neurology and other fields are covered not only in symposiums but also by invitations to the program and the appearance before the Section of prominent men in other fields. In 1893, Sir William Osler discussed anorexia nervosa. In 1937 Dr. Armstrong presented his monumental data on lymphocytic choriomeningitis, showing that this was definitely a virus disease. In 1944 Dr. Ober presented the orthopedic therapy of poliomyelitis, and in 1946 Dr. Donald Lyle discussed visual field changes in central nervous system lesions. A fruitful liaison between other fields has been found in the realm of discussers; for example, in 1948, Dr. Joseph Stokes discussed a paper on neurosyphilis bringing out the viewpoint of the syphilologist to this particular facet of the field.

The men who have been prominent in this section down through the years present a roster of American neurology. The list is far too long to read. A full list of officers will be attached to the reprints of this paper. The election to the chairmanship is a fairly good assurance of at least one year of life. In the years the Section has met, on only two occasions has the chairman died before the meeting was held. These two chairmen who died in office were Dr. Pierce and Dr. Southard of Boston. A few of the outstanding former chairmen who are no longer living are Charles K. Mills (1892), Hugh T. Patrick (1899), Wharton Sinkler (1906), Morton Prince (1907), T. H. Weisenberg (1908), Dr. M. A. Starr (1909), F. X. Dercum (1915), Bernard Sachs (1917), Peter Bassoe (1922), George B. Hassin (1933), and H. Douglas Singer (1935).

This section of the American Medical Association has always held an attraction for our fellow specialists in other countries. The first foreign guest recorded was R. Burkhardt of Bonn, Germany, in 1891. In 1903 Sir Victor Horsley and Sir William Gowers were elected members of the Section. In 1914, Otfrid Foerster of Breslau and Wilfred Harris of London addressed the Section. In 1921 Richard Rows of London and Pierre Janet of Paris spoke. In 1922, S. A. K. Wilson attended the meeting. In 1945, Th. Alajouanine was the last foreign guest.

In reviewing the activities of this section over the long period of its existence, one cannot help but be proud to be associated with it, nor can one fail to ponder the possibilities of furthering the role of this section. Certainly it has discharged its duty to disseminate knowledge among physicians, and, in addition, when there is some problem that threatens the common good and is in the domain of the field of competence of this section, the members have risen to speak forthrightly and promptly.

FUTURE OF THE SECTION

Looking into the future, there need be no travail. There is no hint that the Section is in jeopardy from within or without. The direction of the Section passes through the hands of its officers in accord with the principle of the rule of the term of office. There is no danger of this becoming a captive organization. There are, however, certain problems, and certain points worthy of discussion. The first of these is the question of membership. There is no fixed membership for the Section, and any physician attending the American Medical Association Annual Meeting can register for the Section. This is quite proper, for no one is barred from attending our meetings. The formation of a fixed membership with encouraged transient membership would have many advantages. One of them might be the more regular attendance by men in these fields at the A.M.A. section meetings. There is not the feeling of belonging that exists in other societies in these fields. Men are often quite

willing to come, present their papers, and quietly slip away, and, if they are not on the program, often they do not appear at the meeting at all. Another advantage in a fixed membership would be that, if it were ever felt necessary to set up a budget for the Section, it would be much easier to do so with a fixed membership.

The matter of budget is certainly not pressing. To the best of my knowledge there is only one section, that of ophthalmology, which happens to have a budget of its own and private funds. The chief advantages of this are the setting up of a prize and the publication of the transactions of the Section. The transactions of our section were formerly published but were discontinued in 1919. It does not, however, seem to be necessary at this particular time to publish transactions of the sections. The papers read before the Section are for the most part published in THE JOURNAL and usually quite promptly. Those papers presented here that are too technical for publication in THE JOURNAL appear in the specialty journals, particularly the *A. M. A. Archives of Neurology and Psychiatry*. During the five years of my active association with this section, there has been only one time when the absence of a budget proved to be somewhat of a disadvantage. This was shortly after World War II, when a steering committee was set up composed of the officers of psychiatric societies and the officers of our section had difficulty in attending the meetings or in appointing delegates to fill the offices, since there was no budget to meet this. This, however, proved to be a very minor disadvantage, for somehow the meetings were covered on a voluntary basis, and eventually this steering committee withered. There is no foreseeable similar problem in the future. However, a separate budget would make it easier for the Section to invite distinguished guests.

The scientific programs are ideal for their purposes and one can see no need for any change in the program. Distribution of papers within various fields, the geographic representation on the program, and the high quality of the papers all speak for the success of the Section. We might, however, do more to urge men from other fields to appear at this sounding board. Joint meetings with other sections have not proved particularly satisfactory; not because the meetings themselves have failed but because of the disadvantages that a symposium heaps upon the rest of the program of the Section on Nervous and Mental Diseases. Since we have three groups of physicians with their ancillary groups to accommodate within the specialties, and three days for the meeting, a symposium seriously cramps the functioning of this section.

The three groups became represented each on their own day in the Section in the year 1948. This segregation policy has certain advantages. It is possible for men interested only in neurosurgery, or in medical neurology, or in psychiatry to attend the Section meetings on one day, gather the grist from the mill, and go about other duties. It makes it possible for the judicious arrangement of the meetings to have this one particular group hold its meeting at a time most appropriate and in conjunction with one of the other society meetings. There is, however, a great disadvantage in this procedure, in that there is not the cross fertilization between the disciplines. It is obvious to those who preside over the meetings that the same men are not present from day to day, and particularly is that so of the specialists in these various fields. They attend their own day but do not stay to add their own deliberations and experiences to those of their colleagues. The members of the Section should give some thought to the advantages and disadvantages of this format of the program and convey their feelings to the officer.

There has been a peculiar and interesting trend in the development of the Scientific Sessions of the American Medical Association. The attendance at the scientific meetings of the sections has tended to remain static or to decrease, while the scientific exhibits have become more and more attractive. These improved exhibits are the direct result of the enthusiasm and the labors of Dr. Thomas Hull. Unfortunately, the scientific exhibits are frequently at a distance from the section meetings. From the standpoint of the specialist and of those interested in the growth of the Section, it would be advantageous to have the distribution of the scientific exhibits so they would be in juxtaposition to the appropriate section, for example, the scientific exhibit on the nervous system would be in the foyer of our own section meeting. This, however, would be disadvantageous perhaps for the over-all intent of the entire meeting. Again, this is a point that the members of the Section might wish to consider. Perhaps the name of the Section is somewhat outmoded and the membership might wish to consider modernizing it. I would, however, recommend that if this is done all three disciplines be included in the title, so that it be called the Section on Neurology, Neurosurgery, and Psychiatry. But the present title is superior, for it appeals to the non-specialists and therefore should be retained.

The future of the Section depends upon the future of the constituent fields and of the American Medical Association. All are virile. Offices are rotated regularly, so there is no threat of capture or stagnation within the frame-work of the Section. The nervous system and its derangements remains a challenge to physicians in all categories, thus the over-all appeal of this section will not diminish in the foreseeable future. Certainly the painful evolution of the Section and the succeeding 68 years of progress in scientific medicine and in leadership augur well. The minor questions I have laid before you for your consideration underline the augury.

Massive Resection of the Liver.—The removal of a large portion of the liver is a relatively infrequent surgical procedure. Few surgeons have had much experience with the operation. Keen reported the first case in the United States in 1892, and in 1899 he removed the entire left hepatic lobe for carcinoma. In reporting this case, Keen included a table of 76 cases of liver resection from the world's literature. Warvi found a total of 570 resected cases of liver tumor to 1945, but in only 223 of the reports was there a complete description of the operations performed with confirmation of the diagnosis by microscopic examination. Tinker found 59 instances of liver resection performed by members of the American Surgical Association to 1939. He concluded that a busy abdominal surgeon at some time would likely encounter one or more hepatic conditions requiring resection. Conditions for which the liver has been resected include hemangioma, primary and metastatic carcinoma, gumma, tuberculoma and trauma. The most frequent indications for liver resection are hemangioma and carcinoma.—Julian K. Quattlebaum, *Annals of Surgery*, June, 1953.

EARLY DEVELOPMENT OF THE PSYCHIATRIST

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NOTE.—*The following paper is primarily of interest to medical students and to the younger graduates who are considering advanced studies in the field of psychiatry, many of whom are readers of* THE JOURNAL.—ED.

Psychiatry has been referred to as "the Cinderella of medicine," "the stepchild of medicine," and "the orphan of medicine." Whatever its relationship to medicine may have been in the past, the importance of psychiatry in present-day medical practice is being recognized increasingly, and its usefulness in relieving and preventing human suffering is steadily growing. It has grown rapidly in both its scientific knowledge and its popularity, but many of its aspects remain to be developed. Among the areas not yet fully charted are the problems and processes associated with the education of the psychiatrist. As a member of the faculty of the Menninger School of Psychiatry, where there are approximately 100 young physicians in training for this specialty, I have had many opportunities to observe and participate in the development of a number of psychiatrists. I propose to report from this experience my observations of, and preliminary formulations about, some of the processes involved in the maturation of the psychiatrist.

Psychiatry might be defined as that specialty of medicine that deals with the incongruous. The psychiatrist attempts to alleviate the suffering resulting from disparities between a person's emotional needs and the characteristic ways in which he tries to satisfy those needs. Until the advent of dynamic psychiatry, the incongruous behavior of the mentally ill was usually considered to be inextricably bound to mysticism. Without doubt, the greatest advance in psychiatry within the last 100 years has been the discovery that the riddles of even the most bizarre and abnormal behavior can be understood in terms of the complex functioning of the human organism.

Another incongruity associated with psychiatry is the one between the number of psychiatric patients and the number of trained psychiatric personnel. Personnel are needed at all levels, but here I will consider only the need for psychiatrists. There are about 490 public and private mental hospitals in the United States. These hospitals are overcrowded, with 750,000 mentally ill patients. In fact, over 50% of all hospital beds in the United States are occupied by patients with mental illnesses. The number of Americans who are in need of ambulatory psychiatric treatment can only be guessed at. For these millions of actual and potential psychiatric patients, there are about 8,000 psychiatrists. The latest statistics from the American Medical Association [1] indicate that over one-third of the 1,936 approved residencies in psychiatry are vacant at the present time. Although some 400 young physicians will complete their psychiatric residencies in 1953, an unknown number of psychiatrists will leave practice because of retirement, illness, or death. Almost 1,400 physicians are in psychiatric training at present, but this does not indicate that the incongruity between the number of patients and the number of psychiatrists will change perceptibly in the near future. Mesrop Tarumianz [2] recently estimated that a minimum of 20,000 psychiatrists are needed in the United States to meet the demands of those who recognize the need and importance of psychiatric treatment and psychiatric preventive work.

To study this situation, the American Psychiatric Association held a conference on psychiatric education at Cornell University in June, 1951. The 82 participants included deans of medical schools, leaders in the medical specialties, including psychiatry, and administrators of government agencies and private foundations concerned with medical education. The purpose of this conference was "to promote and preserve the health of the community: by investigating, defining, and helping to develop programs which will improve the teaching of basic and clinical psychiatry; by advancing the medical skills needed to recognize and treat mental illness and emotional maladjustment; by coordinating the efforts of all groups concerned with these problems so that their total resources may be used more effectively." [3]

When the causes of this shortage of psychiatrists are considered, it is noted that the opportunities in the field are multitudinous, yet every area of psychiatric practice, education, and research needs more personnel. There are several factors that inhibit medical students from choosing this specialty. In 1940, Dr. Karl Menninger was asked by one of the chapters of Phi Beta Pi medical fraternity to fill their annual lectureship. The students said that they were particularly eager to have it filled by a psychiatrist, so Dr. Menninger accepted the invitation. After the lecture he stopped at the fraternity chapter house, where, to his surprise, he was asked many questions about psychiatry, the opportunities available in the field, and the opportunities for postgraduate training.

Dr. Menninger was so astonished by the students' apparent interest in psychiatry that he determined to try to learn from other medical students why so few selected it as a career. He visited 12 medical schools in 1944 and talked informally with many medical students. Other members of the Menninger Foundation staff did the same. In 1949, I visited 16 medical schools and used a questionnaire developed by Dr. Menninger, which was devised to sample the attitudes of medical students toward psychiatry. The completed questionnaires documented crucial facts. They revealed the following composite opinion about psychiatry: Psychiatry is vague, ethereal, and mystical; it is divorced from good medicine; it is too subjective; there is a lack of personal gratification in the practice of psychiatry; there is no future in this specialty; the practice of psychiatry requires more ability than other specialties; most psychiatry is practiced in

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1. Approved Internships and Residencies in the United States, report of the Council on Medical Education and Hospitals, J. A. M. A. **150**: 275-377 (Sept. 27) 1952. Medical Education in the United States and Canada, report of the Council on Medical Education and Hospitals, ibid. **150**: 99-130 (Sept. 13) 1952.

2. Tarumianz, M. A.: The Opportunities of the Menninger Foundation in the Perspective of Time and Distance, Menninger Quart. **6**: 20-26 (Dec.) 1952.

3. Psychiatry and Medical Education, Whitehorn, J. C., editor, Washington, D. C., American Psychiatric Association, 1952.

institutions; psychiatry is irreligious; psychiatry does not help anyone; psychiatry is concerned only with diagnosis and not with treatment. Being psychiatrists, we were eager to discover the origin and development of these expressed attitudes and the way they could be changed.

Before exploring these questions further, I began teaching psychiatric aides.[4] In this situation I had a rare opportunity to observe the attitudes of lay persons toward psychiatry and mentally ill patients. Perhaps even more important, I observed how these attitudes changed and I evolved some hypotheses as to what caused them to change. Along with my colleagues,[5] I soon learned the importance of the basic attitudes toward psychiatry that the new attendant brings with him to the mental hospital. These attitudes seriously affect the quality of the attendant's care of patients. They may also determine whether the attendant remains in the work or seeks other employment. We found that a large part of an educational program for attendants involves providing learning experiences in which he has an opportunity to examine his attitudes and to change them. He is concerned from the outset of his employment with the following questions: 1. Will I get hurt? 2. Will I go crazy too? 3. What is expected of me? 4. Will my efforts make any difference? These personal questions reflect many of the attitudes that are common about psychiatry. The mentally ill patient is often thought of as someone whose behavior is always extraordinary and who, if unleashed, will kill and rape. Mental illness is believed to be contagious, irreversible, incomprehensible, and hopeless. It is doubtful that the new attendant can be taught much about the techniques of psychiatric nursing until he has changed his original attitudes toward mentally ill patients and has found answers to these penetrating and disconcerting questions.

My more recent experiences with psychiatric residents leave me with the unavoidable and uncomfortable conclusion that many physicians arrive for postgraduate training in psychiatry with only a limited knowledge of its fundamentals. I have found the same questions that are asked by new attendants to be foremost in the minds of most residents. Believing that these observations have important implications for psychiatric education, I have attempted to explore their meaning. Even though I have not been able to study the problem with any formal research method, I wish to describe some of the factors that seem to be present in the growth process of the physician who decides to become a psychiatrist. My primitive attempt to study the problem will stimulate others, I hope, to investigate more fully and more scientifically this aspect of medical education.

DIFFERENCES BETWEEN PSYCHIATRIC AND MEDICAL PRACTICE

Traditionally, the young psychiatrist has begun his training in the large mental hospital, caring for psychotic patients. I do not question the validity of this tradition; I wish only to call attention to the fact that it continues and that my formulations are based on observations in a setting where it is in practice. I believe the nature of the physician's initiation into psychiatry, as traditionally practiced, definitely influences his growth as a psychiatrist. It leads him to believe that the clinical practice of psychiatry in a mental hospital with psychotic patients is significantly different from the clinical practice of general medicine and surgery. Much has been done, by improving psychiatric teaching in medical schools, to influence this assumption; the objective of medical educators has been to prove it false. In my experience the assumption still holds true for many residents, and, because of it, such a physician who chooses psychiatry for specialty training has to make significant adaptations as a physician after he enters training in psychiatry.

This assumed difference between psychiatric practice and other medical practice is actually more illusory than real. But because of the resident's relative inexperience with psychiatry as a body of knowledge, with its clinical practice, and with the mental hospital, the difference is starkly real for him. To erase this illusion in medical education, psychiatry must be integrated into general medical education and the medical student must be provided with more meaningful experiences with psychiatric patients. The training in psychiatry in many medical schools is inferior to the training in all other specialties. Perhaps there is an even more basic problem facing the medical educator who wishes to better prepare the medical student in psychiatry. It has been found that many physicians who wish to begin their postgraduate training lack adequate education in the basic sciences of psychiatry—psychology, psychopathology, and sociology. The sciences basic to psychiatry have not yet been considered seriously as sciences basic for all medical practice. All too often, the premedical student has to surreptitiously avoid his premedical adviser if he wishes to enroll in courses in psychology and sociology as well as in the humanities. Because of these many factors, the new psychiatric resident is repeatedly confronted with differences from the medical environment within which he spent his early formative professional life. These differences can be divided into four categories: (1) differences in the patients, (2) differences in the nature of the psychiatric hospital, (3) differences in the treatments used, and (4) differences in the role of the physician.

DIFFERENCES IN THE PATIENTS

In every culture, certain persons are set apart by the group as those who will treat the sick. As the medical student becomes trained, he becomes familiar with a basic pattern in human behavior—when a person experiences pain, he usually goes to another person for relief from that pain. The important role that pain plays in bringing patients to medical attention is commonplace in the physician's experience. The new psychiatric resident soon learns that the role of pain in mental illnesses may be different. The hospital resident in psychiatry may observe that more of his patients are brought to the hospital than seek hospitalization voluntarily and that many of these patients appear to be singularly free of pain. From this he may falsely assume that pain is not a characteristic of mental illness. Through experience, he

4. The greatest shortage of psychiatric personnel is in nursing personnel. There are only 11,000 nurses, a fraction of what is needed to care for 750,000 hospitalized, mentally ill patients. Untrained persons are hired to assist with nursing care. These lay workers are called "attendants." There is a tendency now to call them "psychiatric aides," particularly if they have had the benefit of some in-service training.

5. Hall, B. H., and others: Psychiatric Aide Education, Menninger Clinic Monograph Series, no. 9, New York, Grune & Stratton, Inc., 1952.

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discovers his mistake and gains respect for the self-curative powers of the human psyche. He finds that abdominal rigidity, elevated temperature, leukocytic response, and involuntary splinting all have their counterparts in psychic illness. The resident comes to realize not only that pain does exist in mental illness but that, judging from the severe reactions to it, it must be the most excruciating of all human suffering. The human organism mobilizes heroic defensive measures to achieve analgesia from psychic suffering.

To the uninitiated, the psychiatric patient's attitude toward his illness may appear to be perverse. Prior to his psychiatric work, the physician may never have known a patient who would not readily admit to his discomfort and to the fact that he was sick. Some psychiatric patients deny that they are sick, avoid stubbornly the implications of their illnesses, and may even attribute the illness to others by saying, "I am not sick; they are the ones that are sick." Such a patient's attitude toward his illness results from factors that, for the patient, are justified; it is not the result of obstinate perversity, as the new resident may think. For some human beings to admit their need for help with personal problems is, for them, equivalent to an attack on their self-integrity, and, as a result, such persons must defend themselves constantly and deny any need for help. The resident finds not only that the psychiatric history deals with the most intimate aspects of a person's life and that the tabooed topics of ordinary conversation become important topics of psychiatric investigation but that for some patients to admit the presence of certain conflicts means that they can no longer deny that the conflicts exist—now it is known to another, so now it is official. Experiences like the one related below soon teach the resident that the patient's expressed attitude toward his illness is not always the same as he subjectively experiences it.

It was the 17th day of the physician's residency in psychiatry. He reported to his consultant that he had been exasperated by a patient on his ward. The patient constantly demanded time with the physician, only to complain about being held in the hospital against his will. "Lately," the resident added, "the patient has threatened to write his senator and expose this supposed injustice." The consultant asked the resident what he felt like saying to the patient when plied with these demands to be released. The resident answered promptly, "Why, he's too damned sick to leave the hospital." The consultant suggested that the patient would be relieved if he knew that the resident recognized how sick he was. The consultant pointed out that it must be very frightening to feel that one's desperate need for help might not be recognized and that such a patient might try indirectly to determine whether the physician really appreciates his desperate state. The next day the patient again encountered the resident and asked, "When are you going to let me out of this jail?" The resident replied, "When I think you are well enough to leave." The change in the patient's attitude was dramatic. The consultant was credited by the resident with being a man of great wisdom, and the consultant noted in his evaluation of the resident, "Dr. X is beginning to use common sense in his everyday management of psychotic patients. . . ."

The new resident has much to learn about talking with psychiatric patients. Perhaps it is in this area of communication that the resident discovers the greatest difference from his earlier medical experiences. It is not difficult for anyone to describe the pain he experiences during an acute attack of cholecystitis, but it may be difficult to express the frightening experience of a hallucination. The word nervous may mean anything from a slight frustration to the crippling panic associated with feelings of unreality common in the incipient stage of schizophrenia. There are thousands of patients who cannot tell the physician what they feel and what they experience as sickness because they cannot yet trust the physician enough to talk to him about their subjective experiences. My own initiation to talking with a psychotic patient and my reaction to the experience is not uncommon in the early days of being a psychiatrist.

Having just finished an internship and being impressed with my own ability to size up a medical problem promptly, I asked a new hospital patient to come with me to my office for an interview. After seating ourselves in the office, I began the interview by asking the patient why he was in the hospital. His answer was equally abrupt: "What the hell difference does it make to you?" Not only was this answer unexpected, it temporarily paralyzed me. I entertained fantasies of being beaten by this now classified as "paranoid" patient. But my own defenses served me well, for I concluded that this patient was "too sick to try and talk to," and, as abruptly as I had initiated it, I terminated the interview. Later my supervisor demonstrated what I thought was superior skill with this patient. The patient was not paranoid at all and talked fluently to my supervisor. I noticed, however, that my supervisor behaved differently than I had with the patient. He offered the patient a cigarette and talked about the patient's home town, the fact that that town was known for its high school basketball teams and that the patient had been center on a winning team from that town when he was a senior. This all appeared interesting to me, but I was impatient with the supervisor. I noted, however, that when he asked the patient, after some 20 minutes of this chitchat, "Well, what brings you here?" the patient freely told the supervisor the story of his recent illness.

Closely associated with the difference that the resident finds in psychiatric patients from medical and surgical patients is the difference in the role of the patient's family in psychiatric care. The patient is a member of a social group and a family, and his sickness develops while he is a member of that group. This fact may lead to certain reactions to the patient's illness on the part of the other members of the family group. For example, the relatives may feel that they have been responsible for the patient's illness and may attempt to assuage their guilt by well-intentioned behavior, which may interfere with the patient's treatment. On the other hand, the relatives may find it necessary to deny the seriousness of the patient's illness and resist accepting the full significance and implications of the illness. They may seek relentlessly what might be called the organic out: "Doctor, are you sure that John does not have a brain tumor?" They recite numerous reports of cases in which persons behaved just like John at another clinic; a brain tumor was found, and after it was removed the person was all right. It is easier to explain the aberrant behavior of a son to the neighbor next door if it can be accounted for on an organic basis. It is no wonder that the term nervous breakdown is prostituted into ambiguity.

Simmel [6] has underscored the resistance that relatives and friends may manifest toward the patient's recovery. If a mother has babied her son all of his life because she is continuously frustrated by an unhappy marriage and

6. Simmel, E.: Psycho-Analytic Treatment in a Sanatorium, Internat. J. Psycho-Analysis **10**: 70-89 (Jan.) 1929.

needs to feel that another human being is helpless and fully dependent on her, that mother may unwittingly attempt to defeat the purpose of treatment, which is aimed at freeing her son for a life of his own. I recall the letters that one mother wrote to her hospitalized son; they were love letters. It was not surprising when later this same mother found it necessary to take her son from the hospital prematurely and against medical advice. In such situations, the resident may wonder whether the mother should not be the patient; thus, he learns that in psychiatry one may often best treat the patient indirectly by treating the relative of the patient.

DIFFERENCES IN THE HOSPITAL

The sheer size of many psychiatric hospitals presents adjustment problems for the new resident. But the psychiatric hospital is vastly different from the general hospital, where the embryo physician spent his early professional life. The resident soon finds that he must learn new procedures of personal conduct on a closed psychiatric ward. Embarrassed, he may confess to the nurse that he left his ward key somewhere while he was making the rounds. Only then does he fully realize that the key is lost on a ward where there are six patients who are "elopement risks." Deeply chagrined, he helps the nursing personnel begin a systematic search of the ward for the lost key; he avoids their surreptitious, impatient glances at him and interprets them correctly: "When are you ever going to learn?" The physician usually does not learn the tricks of personal conduct on the closed psychiatric ward until after he begins his postgraduate training.

Gradually the resident learns that the psychiatric hospital and its environment is an important therapeutic tool. For example, he learns that maintaining an environment in which a patient cannot commit suicide is the very essence of the treatment of the suicidal patient. He finds that a large part of psychiatric hospital practice lies in the controlled, planned use of the hospital environment. He begins to gain the same medical acumen in prescribing the use of tennis courts, occupational therapy shops, discussion clubs, and room and ward assignments that he previously used in prescribing digitalis for a patient or in maintaining a proper electrolyte balance in a vomiting patient after operation.

DIFFERENCES IN TREATMENT

The physician not only is acquainted with human beings seeking him out for the relief of their pain but is also accustomed to being able, in most instances, to give them some relief. This leads to the difference in treatment that confronts the psychiatric resident. The following report demonstrates how the new resident psychiatrist may respond to the patient's requests for help and how he may misinterpret the significance and meaning of these requests:

> The patient's problem centered around his chronic use of alcohol. He was brought to the hospital by his mother. She was worn out by attempts to control him and also financially exhausted from his alcoholism. The patient presented the resident with a different symptom each time he saw him. There was only one thing slightly irregular about this: the symptoms were all somatic. When the resident called in the consultant, the patient was receiving aspirin three times a day, treatment for dermatophytosis, and sedation at bedtime. A roentgenogram had been ordered because the patient said he thought he had arthritis in his back—"always had pain there." The patient had already been sent to the eye clinic for a re-refraction because he reported that he could not read fine print any more, and a tooth that had lost its filling three years ago suddenly had become painful after the patient was hospitalized. The consultant noted all this and then asked the resident what he thought about these studies and treatments. The resident replied that he did not think any of them were very important, actually, but he did not know what else to do with the patient. The consultant commented that the patient seemed to be receiving treatment for everything but the problem that had brought him to the hospital—his excessive use of alcohol. The resident then volunteered, "But he never says anything about that." In the discussion that followed, the consultant helped the resident to understand that in this instance overattention to the patient's many physical complaints was a way of joining with him in an avoidance of the problem that really needed treatment.

The resident has not been in psychiatry for many weeks before he longs for the specific treatments that he used in medicine and surgery. He recalls that it was easier to calculate, measure, and administer the required cat units of digitalis than he now finds it to calculate, measure, and administer the appropriate amount of passive interest to show toward an assaultive, paranoid patient. He must decide what to do when there is no tumor to extirpate, or drug to measure, for the treatment of the withdrawn schizophrenic patient. Because the concepts of etiology and pathogenesis in psychiatry are far behind similar concepts for most medical and surgical diseases, the rationale in psychiatric treatment is less defined. There are few specific measures at one's disposal for the treatment of the mentally ill.

The physician learns as a part of his medical training to depend on other professional personnel to provide much of the indicated care of the patient. Chances are, however, that he never realized the full extent to which the psychiatrist must learn to work through other personnel. The novice psychiatrist finds that his relationship with the head nurse on the psychiatric ward is of primary importance. His best planned psychiatric treatment can be wasted if he fails to provide the needed supervision for the nurses, psychiatric aides, occupational therapists, and others who may execute this treatment program and whose direct contribution to the patient's treatment may be more obvious than his own. Learning to capitalize on the potential contributions of the social worker and psychologist, who have particular skills to contribute to the care of the patient, is also a part of the psychiatrist's early development.

DIFFERENCES IN THE ROLE OF THE PHYSICIAN

No physician escapes leadership responsibilities. Providing direction and education for personnel as well as for patients is a part of the heritage of the physician; but perhaps the expectation and necessity of a leadership role reaches its height in medicine in the practice of psychiatry. The practice of psychiatry requires, in most instances, the assistance of other professional personnel, and the psychiatrist is called on, particularly in psychiatric hospital practice, to provide the necessary leadership for a team of professional experts. Preparation for this leadership is an essential part of any psychiatric residency training program.

Early in his medical training the physician learns of the importance his remarks and gestures have for the pa-

tient. The patients put their lives in his hands, and they listen attentively to his counsel and advice and follow his treatment recommendations, often without question. Every physician knows that his relationship with the patient is his most powerful therapeutic weapon. It often takes some time before the new psychiatric resident appreciates the singular importance of the physician-patient relationship in psychiatric treatment. Many of his early problems are related to his learning how to make the greatest use of his interpersonal relationship with patients. These early problems include many periods of frustration, when he does not know what to do with the psychiatric patient, feels impotent as a physician, and seeks out the "medical" cases on the ward. The psychiatric patients assigned to the new resident receive a superior quality of attention to, and care of, their organic troubles.[7] The resident's order sheets for such patients are characterized by four categories of treatment: (1) laxatives, (2) treatment for epidermophytosis, (3) medicaments for minor upper respiratory tract infections, and (4) analgesics. Precise orders to implement psychiatric treatment are rare in the clinical charts of patients under the care of first year residents.

Without doubt, the most significant cause of the new resident's awkwardness on the psychiatric ward is that he does not know what to do. He is a physician, but none of his patients need the kind of treatment requiring scientific use of the stethoscope, the pharmacopoeia, or the scalpel. To further complicate matters, the patients are usually ambulatory and appear to be in excellent physical condition. This is a tremendous frustration for the newly trained physician; few of his skills, which he has worked so long and hard to acquire, are now of any use to him. Actually, he will need all of those skills acquired in his earlier medical training and experience in the practice of psychiatry, but he needs additional skills, and it is the latter about which he feels incompetent and disturbed.

In psychiatry, the new resident often finds himself alone with the patient with no armamentarium, nothing but himself. Gradually he learns that the scientific use of the self is the very essence of psychiatric treatment. He begins to realize that a smile can be as therapeutic for some as an attenuated typhoid bacillus can be for others, that there are indications and contraindications for body contact with mentally ill patients, and that there are psychiatric risks of life and death, just as there are similar surgical risks. He finds that a lack of insight into his own feelings about a patient can be as deadly as a toxic dose of a drug. He begins to experience the power that exists within him for the treatment of human suffering. He experiences early the power of the physician-patient relationship and begins to realize the importance that he can have in the lives of the mentally ill.

It often takes some time before the resident fully appreciates this importance that he has for the patients in his care. One resident recently learned this forcibly. After having been assigned to a particular ward for several weeks, the resident left for three days to move his family to Topeka. When he returned to the ward he found things to be different. Patients who were ordinarily friendly and cooperative toward him were, after his return, querulous and argumentative, and, in the resident's own words, "they acted like a bunch of sulking kids." The resident began to understand that not only are there techniques of beginning a physician-patient relationship but that there are equally important techniques involved in temporarily interrupting and in terminating a therapeutic relationship. Gradually the young psychiatrist learns that, through the planned, measured use of his own personality, many persons can be freed of the psychic forces that prevent them from enjoying a full and productive life.

COMMENT

This discussion of some of the problems involved in the maturation of the psychiatrist may have had an unsalutary effect on the reader who may be thinking about a future in psychiatry. In conclusion, I would like to emphasize the satisfying rewards that the psychiatrist realizes as he grows professionally. After I left medical school my sense of mastery soon crumbled, and one of the most important things that I learned in my internship was that "it is not all in the books" and "I've still got a lot to learn." Every physician resigns himself early in his professional career to the fact that his medical life is like all life processes—a continuous, dynamic process, and that unless one is willing to allow a kind of personal professional atrophy, one must remain curious, be investigative, and experience daily the pains of professional growth. Few physicians would have it otherwise. No specialty training is devoid of problems for the student.

But what personal reward is there for the psychiatrist who must experience so many problems that are highly colored with very personal meanings? One does not work with psychiatric patients for long, particularly with psychotic patients, before one feels a challenge to learn more about how to relieve mental suffering. One's scientific curiosity is constantly provoked in psychiatric work, and the opportunities for research are unlimited. Like all professions and like all medical specialties, psychiatry suffers from the lack of good teachers. Any who find particular satisfactions in teaching others can easily realize such aspirations in psychiatry. The financial opportunities in psychiatry are attractive. In psychiatry one may work in institutional practice, private practice, medical schools, research, or any combination of these, and realize a substantial income.

But these are not the really basic and cherished satisfactions in the life of any physician. Similar rewards exist in nearly every specialty of medicine, and no other group of men are held in such high regard and with such esteem as are physicians. This is probably true because physicians, as a profession, have been steadily growing as a group of men and women who are known first of all for their humanitarian interest in man. The phrase interpersonal relationship is nowadays used by some as if it had just been coined. Physicians have merited their respect because they have long recognized the importance and objective counsel, as well as treatment for the relief of human relationships and in their relationships with their patients have offered sympathetic understanding of pain.

7. One woman resident was very pleased with herself, when, in her early days at the hospital, she was able to diagnose correctly a case of mumps in one of her psychotic patients. This opportunity to prove herself a competent physician came at a time when she felt particularly incompetent in managing the psychiatric problems of her patients.

Dynamic psychiatry, because of its preoccupation with the treatment of suffering for which there is no organic basis, has likewise become preoccupied with the physician-patient relationship. Perhaps it is in the area of the scientific study of the art of medicine that psychiatry has made and will make its greatest contribution to medical knowledge. For the young physician who wishes to learn scientifically the artful use of his personality, psychiatry, perhaps more than any other specialty of medicine, offers the golden opportunity. The reward offered is that his daily professional work will provide many opportunities for him to grow in stature as a person.

The misunderstood, mentally ill have been mistreated and neglected in the past. These are the patients that the psychiatrists care for every day—those who often are rejected by society, by family, and by friends, The lonely, the sick at heart, the confused, and the despondent are the clientele of the psychiatrist. Included are those whose productivity and potential for happiness have never been realized. The reward that comes to a psychiatrist in personal satisfaction from relieving the tortures of mental suffering is very real, though it is difficult to describe. The psychiatrist must work with the patient for a long time and must, therefore, defer his feelings of satisfaction for a long period; just the same, they are realized. Imagine the pleasure that comes to the psychiatrist who, through a number of years of hard work with a very sick schizophrenic patient, sees that patient slowly freed of his psychic limitations and achieving the maturity that was his biological destiny. Frequently, the patient had been restrained from this by conflicts within him that grew out of his early life experiences that he could not, with all of his natural curative processes, overcome by himself. But with the help of the psychiatrist's continued, prolonged, objective, sympathetic interest and skill, the patient gradually frees himself from a life determined by illness and lives to destine his own fate. This freedom allows him to find a healthy expression for that resourceful, creative, living dynamism known as the human spirit.

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PROPHYLAXIS OF ALLERGIC DISEASE IN THE NEWBORN

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and
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Pediatricians and pediatric allergists have often observed that food sensitivities occur much more frequently in the first few months of life than in later infancy, childhood, and adult life. It is assumed that a physiological immunologic immaturity exists in the early months of life that results in sensitization and clinical symptoms caused by absorption from the intestinal tract of unaltered proteins in potentially allergic children. A potentially allergic child is a child who has at least one allergic parent or sibling.[1]

Evidence that infants absorb unaltered protein from the gastrointestinal tract is well established.[2] Actually, as Walzer [3] has indicated, this takes place qualitatively at all ages; quantitative studies have not been made. In the late 1920's Glaser [1] observed frequent intolerance of egg yolk in infants when the food was introduced at the age of three months and rare intolerance when the food was introduced at the age of nine months or later. As a result of this observation it was postulated by analogy that if cow's milk protein, which constitutes the chief source of food and is the commonest cause of food allergy in the early months of life, were completely withheld from the infant's diet until this period of physiological immunologic immaturity passed, the symptoms of milk allergy might be minimized or even prevented.

A previous study [1] demonstrated the practicality of feeding infants from birth on a diet in which a soybean milk formula (Mull-Soy) completely replaced cow's milk. It was possible to feed successfully all but less than 15% of newborn infants on such a substitute for human milk or cow's milk.

The purpose of this study was to determine whether completely withholding cow's milk from the diet of potentially allergic newborn infants through the early months of life would influence the development and magnitude of major and minor allergic diseases not only during that period but also after the addition of cow's milk to the diet at a later age. The difference between major and minor allergy is largely one of degree. We consider the presence of any asthma as evidence of a major allergy, but a small area of atopic dermatitis (eczema) that responds promptly to treatment or a transient urticaria or a gastrointestinal reaction to an unimportant specific food like squash, for example, is considered a minor allergy. Minor allergies in this study did not present problems of any significance and, therefore, are not considered in detail.

METHODS

The experimental group of 96 infants were all either offspring or siblings of one or more persons with one or more allergic diseases, i. e., asthma, atopic dermatitis (eczema), pollinosis (rose or hay fever), and perennial allergic rhinitis. Cow's milk was withheld from each infant from the day of birth. Eighty-eight were given soy-

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From the Department of Pediatrics of the University of Rochester School of Medicine and Dentistry and the pediatric services of the Genesee, Strong Memorial, and Rochester Municipal hospitals.

1. Glaser, J., and Johnstone, D. E.: Soy Bean Milk as a Substitute for Mammalian Milk in Early Infancy, Ann. Allergy **10**: 433, 1952.

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3. Walzer, M.: Absorption of Allergens, J. Allergy **13**: 554, 1942.

bean milk; three were exclusively breast fed; and five were given meat base formulas.[4] In order to minimize the chances of sensitizing an infant through breast milk, eggs, foods consisting largely of eggs, and all cheeses were omitted from the mother's diet; the cow's milk intake was limited to a pint a day boiled 10 minutes, and a variety of the permitted foods was recommended. A sufficient intake of calcium and phosphorus was assured by suitable medication. When the mother could not or would not nurse or the breast milk failed, the child was given soybean milk. The starting formula usually consisted of one-third soybean milk and two-thirds water and was increased to equal parts of soybean milk and water as the infant became accustomed to it.

The ages at which cow's milk was introduced into the diets of the infants were: under one month (5), one to three months (19), three to six months (17), six to nine months (50), and over nine months (5). Their allergic histories were reviewed up to the time of this writing for the incidence of allergic disorders previous to and after the introduction cow's milk into the diet. The follow-up periods were 7 to 12 months (15), 1 to 2 years (14), 2 to 5 years (45), and 5 to 10 years (22).

The histories of 70 siblings of infants in the experimental group were reviewed for the same data, as a control group. Only 65 were included in the control group, since the other 5 could not be followed as long as their counterparts in the experimental group. It was recognized, however, that such an experimental group might have a greater incidence of allergies than would occur by chance in a random sampling of potentially allergic children, since many of the infants were placed on the experimental regimen because their siblings had atopic dermatitis, asthma, or some other major allergy. Consequently a second control group of 175 subjects was chosen from the histories of 4,710 children in 1,215 allergic families. These children were followed for the same number of years as their counterparts in the experimental group and had the same number of younger siblings with similar allergic histories. Their parents also had allergic histories closely resembling those of the parents of children in the experimental group. Members of the sibling and the nonrelated control groups were considered to have allergic disease only if their symptoms had occurred by or before the age of their counterparts in the experimental group.

RESULTS

The incidence of major allergy in the three groups is shown in the table. As far as they have been followed, 14 (15%) of the experimental group have shown major allergic diseases as compared with 42 (64%) of the sibling control group and 91 (52%) of the nonrelated control group followed to comparable ages. Thus approximately four times as many infants in each of the two control groups had major allergic diseases as in the experimental group. The probability that this difference is due to chance is less than one in a hundred (chi square = 16, P < than 0.01). The differences among the groups in the incidence of atopic dermatitis and the incidence of major allergic diseases subsequent to atopic dermatitis are significant (chi square = 19 and P is < 0.01 for the incidence of atopic dermatitis and chi square = 6 and P is < 0.01 for the incidence of sequelae to atopic dermatitis). The incidence of milk allergy and the subsequent occurrence of major allergic diseases in these infants are likewise statistically significant (chi square = 20 and P is < 0.01).*

One very interesting family in this survey consisted of five children, all of whom were allergic to cow's milk at birth. In two of these, cow's milk caused atopic dermatitis and in two others, both atopic dermatitis and asthma. By contrast, the fifth sibling, who was given soybean milk from birth, has not had any major allergies by 6 years of age, despite the fact that he had diarrhea from cow's milk at 8 months and still cannot tolerate it.

Incidence of Major Allergy in Children

	No. of Patients	Incidence of Major Allergy	Atopic Dermatitis and Sequelae	Allergy to Cow's Milk and Sequelae
Experimental group	90	14	7 (1 had asthma at 3 years, 6 free of allergy at 6 years)	7 (none at 6 years)
Sibling control group	65	42	21 (15 had major allergies between 4 and 5 years,† 6 free of allergy at 6 years)	24 (22 had major allergies at 6 years) ‡
Nonrelated control group	175	91	50 (30 had major allergies by 5 years,§ 20 free of allergy at 6 years)	58 (26 had major allergies at 6 years) ‖

* 10 asthma, 4 pollinosis, and 1 perennial allergic rhinitis.
† 11 asthma, 6 chronic atopic dermatitis, 4 pollinosis, and 1 perennial allergic rhinitis.
‡ 24 asthma and 6 pollinosis.
§ 24 asthma, 1 pollinosis, and 1 pollinosis and perennial allergic rhinitis.

COMMENT

Perhaps the greatest significance of these findings is the possibility of applying the general principles of prophylaxis to the immunologic and allergic management of potentially allergic children. Pediatricians have been concerned with the physical and mental growth and development of infants, with emphasis on prevention of infections and nutritional, orthopedic, orthodontic, and psychogenic diseases. Now it may be possible to reduce the incidence of major allergic syndromes, which are such a perplexing part of a pediatrician's responsibilities. Any measure that may reduce the incidence of atopic dermatitis is important in view of MacKinney and Glaser's [5] statement that 80% of infants with atopic dermatitis in infancy have a major respiratory or other allergy by the age of 6 to 10 years.

The regimen outlined must be instituted from the moment of birth. To give a potentially allergic newborn infant cow's milk as a trial formula ignores the basic premise of this paper, namely that these children have an immunologic immaturity in the first few months of life that makes them especially predisposed to become sensitized to the first foods introduced into the diet. There is also evidence, although unequivocal proof is lacking,[6]

4. Glaser, J.: Substitutes for Cow's Milk in Infant Feeding, J. Pediat. 42: 734, 1953.

* Dr. S. Lee Crump, assistant professor of radiation biology and chief of the Section on Statistics of the Atomic Energy Project of the University of Rochester, made the statistical analyses.

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that the fetus may be sensitized to foods ingested by the mother. For this reason, during pregnancy many of the mothers in our experimental group were placed on the special diet previously mentioned for use while nursing to reduce the likelihood of sensitizing their offspring to particular foods, especially eggs and milk. While we have no evidence that this diet actually accomplishes its purpose, we believe that its use is reasonable on theoretical grounds, particularly since it can do no harm. Before any infant was started on the milk-free regimen, the mother was encouraged to attempt a trial of complete breast feeding. This was done because the studies of Grulee and Sanford [7] had clearly shown that the exclusively breast fed infant has seven times as many chances of escaping eczema as the infant fed cow's milk; however, we were unsuccessful in getting any significant number of mothers to do this.

Along with cow's milk, certain other foods such as eggs, beef (closely related chemically and immunologically to cow's mik), and wheat should also be withheld from the diet of a potentially allergic infant until after the period of immunologic immaturity has passed. From Glaser's [1] observations on egg yolk, this period is presumed to vary from between six and nine months. We prefer to feed the potentially allergic infants breast milk, soybean milk, or meat base milk [1] rather than cow's milk and completely withhold the foods mentioned. Sensitization to soybean milk or to the meat base has not yet been unequivocally observed in our experience; however, it may be expected, since such sensitization appears to depend to a certain extent on age and the length of the period during which a food is given. In this event the infant may then be given other meat base milks, or even cow's milk, with presumably less danger of permanent sensitization or sensitization of long duration.

300 South Goodman St. (7) (Dr. Glaser).

7. Grulee, C. G., and Sanford, H. N.: The Influence of Breast and Artificial Feeding on Infantile Eczema, J. Pediat. **9**: 233, 1936.

DIFFERENCES IN CALF CIRCUMFERENCE AS DIAGNOSTIC GUIDE TO THROMBOPHLEBITIS

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and
Ross A. McFarland, Ph.D., Boston

Since thrombophlebitis may provide a source of potentially fatal pulmonary emboli or may herald occult malignant conditions, its early detection can be lifesaving. As White [1] recently emphasized, "We must everlastingly [look to] the leg veins" in pulmonary embolism; the diagnosis can only be decided clinically.[2] It is generally agreed that calf measurement is an important diagnostic procedure. Although mensuration is but one of several criteria for establishing the diagnosis, it occasionally becomes crucial, for example, when the presence or degree of swelling is questionable or leg and chest pain have recently occurred. In the latter, the patient may be afebrile; physical examination shows only a difference between the two calf girths, and laboratory data and chest roentgenogram interpretation are equivocal. The frequency of such cases on the medical service of a general hospital has directed attention to the significance of difference in calf circumference.

W. A. Hall, M.A., G. Maranjian, Ph.D., and R. H. Osborne, B.S., made the measurements on some of the normal subjects.

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From the Constitution Laboratory of the Department of Medicine, College of Physicians and Surgeons, Columbia University, and the Presbyterian Hospital (Dr. Damon), and the Harvard School of Public Health (Dr. McFarland).

This study was supported in part by the Armed Forces Epidemiological Board, Department of Defense, the National Association of Automotive Mutual Insurance Companies, the American Trucking Association, and the National Association of Motor Bus Operators.

1. White, P. D., in Case Records of the Massachusetts General Hospital, New England J. Med. **247**: 64 (July 10) 1952.

2. Gage, M.: Hidden Thrombus in Fatal Pulmonary Embolism, J. A. M. A. **151**: 433 (Feb. 7) 1953.

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4. Dunlap, J.; Hall, W. A., and Shalvarjian, H.: Personal communication to the authors.

In neuromuscular diseases and those of bones or joints, clinical problems that involve bilateral differences in calf girth are also encountered. Bone or joint damage by disease or trauma may result in muscle atrophy detectable only by measurement. In poliomyelitis, arthritis, osteomyelitis, and the muscular atrophies and dystrophies, such measurements can help diagnose current or previous disease, the extent of damage, and the progress of disease or therapy.

The clinician must evaluate measurements in the light of normal differences to be expected between the two calf girths; however, search of the medical and anthropological literature has disclosed no standards for normal adults. In very few studies have both right and left calves been measured, and then by questionable techniques or predominantly on young men, whereas thrombophlebitis occurs most often in persons over 40. The data presented here may help establish standard calf measurements for American men and women; those for thigh girth and for other age and racial groups remain to be investigated.

SUBJECTS AND METHODS

In the course of an investigation of 369 professional bus and truck drivers,[3] both calves were measured to determine the effect of differential use of the legs in driving. Activity analysis of these drivers on several models of vehicles showed that on the average the right foot was in use 99% of the time (81% on the accelerator and 18% on the brakes), whereas the left foot is active but 48% of the time, on the clutch.[4] It was thus assumed that drivers would show a greater calf difference (right minus left) than other groups in the population; but this did not hold true. Indeed, Tanner [5] has shown that calf cir-

cumference may actually *decrease* with severe exercise, as it does during a single contraction.

The 369 drivers were healthy, white men from 20 to 64 years old, averaging 36 years (standard deviation [S. D.]: ±7.8 years), who averaged about 10 years as professional drivers of heavy vehicles. Most of them lived in New York, New England, and Texas, and their national origins were representative of Americans generally. Included in the group were some 100 state champion truck drivers competing in annual nationwide truck "Roadeos." All had excellent current health records. While they were not questioned specifically as to previous vascular or neuromuscular disease affecting the legs, some volunteered this information and were eliminated from the study, as were all with obvious disease.

Maximum horizontal calf circumference was obtained to the nearest millimeter, the subject standing with feet about 12 in. apart and weight evenly distributed on both feet. A metal measuring tape was applied at least three times, at various levels, to determine the maximum contact circumference without pressure. (Values for the completely relaxed muscle, as in patients measured in bed, are about 6 mm. greater.[5])

The same measuring technique was used for a smaller series of 104 healthy, white working women. They were a mixed group (doctors, nurses, technicians, secretaries, students, housewives, and cleaning women), mainly of northwest and central European extraction. Their age ranged from 17 to 68 years and averaged 32.2±S. D. 11.3 years. None had had previous disease affecting the extremities.

RESULTS

The women showed no statistically significant superiority of one calf girth over the other. The left calf was larger by 0.4 mm., with a S. D. of ±5 mm. This sample is probably representative of American women with regard to calf size, at least as judged by comparison with Reynolds and Asakawa's [6] series of 100 middle income, Ohio women averaging 38 years old. (Left calves in the present series and in Reynolds' series averaged 341.8 ± S. D. 24.1 mm. and 347 mm., respectively.) No other series is available for comparison of calf girth difference, so it cannot be stated definitely that women in general have equal calf girths.

The drivers' age, height, weight, and calf girths are shown in table 1 along with those of ROTC cadets and Army flyers, the only other groups so studied. Dunn's [7] ROTC cadets were measured only to the nearest 5 mm., whereas Elbel's [8] data on flyers are not presented in a form permitting statistical analysis of the calf girth difference. The average difference can be approximated (by subtracting left from right mean calf girth); the standard error of this average cannot be computed. The significance of the difference between the drivers' mean value and the pilots' is thus uncertain; the drivers and the ROTC cadets do not differ significantly. Single calf girths of several other series of men measured by a similar technique [9] are included for comparison.

Two points emerge from table 1: (1) drivers were comparable in calf circumference to other groups in the population, with regard to average circumference and bilateral difference; age and occupational habits seemed to affect calf girth little, if at all; and (2) right calf girth consistently and significantly exceeded the left in the series of men studied. Calf circumference difference, right minus left, in the 369 drivers averaged + 3.2 mm., with a S. D. of ± 6.4 mm. The distribution from which these figures are derived is presented in a clinically useful form in figure 1, which is close enough to the "normal" curve to be regarded as such.

In such a normal distribution, 68% of values lie between the mean ± 1 S. D., 34% falling on either side of the mean. The mean ± 2 S. D. includes 95%; the mean ± 2.5 S. D. includes 99%; and the mean ± 3 S. D. includes 99.7% of the distribution. For calf circumference, a difference, right minus left, of ± 1 S. D., corresponding to – 3 or + 10 mm., may occur by chance one-third of the time and hence can be considered normal. Differences of ± 2 S. D., corresponding to – 10 or + 16 mm., are less likely, with chances that can be read from tables in any statistical text. The procedure is to express the given measurement as distance-from-mean/S. D. For

TABLE 1.—*Calf Circumferences of Various Groups of American Men*

	No. of Subjects	Age (Yr.)	Height (Mm.)	Weight (Lb.)	Weight (Kg.)	Calf Circum. (Mm.) Right	Calf Circum. (Mm.) Left	Difference, Right – Left (Mm.)
Bus and truck drivers	369	36	1,741	167	75.7	362.07	358.84	3.2
ROTC cadets	478	21	1,735	146	66.2	357.5	353.8	3.7
Pilots	75	(25)	1,778	154	69.9	365.8	360.7	5.1
Middle income men (Ohio)	100	38	1,761	163	73.9	.....	361	...
U. of Chicago Freshmen	119	18	1,755	148	67.1	.....	355	...
U. S. Air Force								
Cadets	676	23	1,760	153	69.4	.....	360	...
Gunners	109	24	1,722	145	65.8	.....	355	...
Combat pilots								
Fighter	70	24	1,742	153	69.4	.....	359	...
Bomber	80	25	1,779	161	73.0	.....	360	...
U. S. Army								
World War I	96,087	25	1,720	142	64.4	341	.....	...
World War II	25,000	23	1,738	155	70.3	358	.....	...

+ 15 mm., this is (15–3.2)/6.4=11.8/6.4=1.8 S. D. from the mean, a 3.6% chance that such a difference can occur fortuitously. The usual level of significance is arbitrarily set at 1 to 3% (chances 99:1 to 33:1 against a normal occurrence of the given measurement). For practical purposes, the clinician may use ±2, 2.5, or 3 S. D. Corresponding to these limits, beyond – 10 or + 16 mm., only 5 in 100; beyond – 13 or + 19 mm., only 1 in 100; and beyond – 16 or + 22 mm., only 0.3 cases in 100 will occur in normal men. Whatever level of significance the clinician accepts, he will of course consider calf girth difference as only one diagnostic criterion.

5. Tanner, J. M.: The Effect of Weight-Training on Physique, Am. J. Phys. Anthropol. **10**: 427 (Dec.) 1952.

6. Reynolds, E. L., and Asakawa, T.: A Comparison of Certain Aspects of Body Structure and Body Shape in 200 Adults, Am. J. Phys. Anthropol. **8**: 343 (Sept.) 1950.

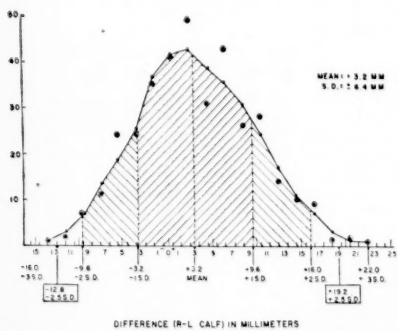
7. Dunn, H. L.: Arch Mechanics of the Normal Adult Foot, Am. J. Hyg. **8**: 410 (May 28) 1928.

8. Elbel, E. R.: Relationship Between Leg Strength, Leg Endurance and Other Body Measurements, J. Appl. Physiol. **2**: 197 (Oct.) 1949.

9. Damon, A.: Physique and Success in Military Flying, Thesis, University of Chicago, 1946. Davenport, C. B., and Love, A. G.: Army Anthropology, U. S. Government Printing Office, 1921. Newman, R. W., and White, R. M.: Reference Anthropometry of Army Men, Report 180, Environmental Protection Section, U. S. Army, 1951. Reynolds.[6]

OTHER OBSERVATIONS

There is a marked difference among various persons in ability to discern slight inequalities in calf circumference. In this series experienced physical anthropologists could not always decide this by inspection alone when differences ranged between 10 and 15 mm. It seems reasonable, therefore, that measurement should be routine. Among the men, the average of the two calf girths is unrelated to age (coefficient of correlation [r] = −0.03). Calf girth difference is also unrelated to age (r = + 0.04). Average calf girth and calf girth difference are themselves independent (r = + 0.06). Handedness cannot be used to "explain" the superiority of right over left calf girth or to predict which calf will be larger, since the coefficient of correlation (r) between calf girth difference and the dextrality index (left hand grip as a percentage of right, as measured by a Collins dynamometer) is −0.09. (All r's have a standard error of ±0.05). This may be stated in another way. Excluding the 210 "mid-



Distribution of calf circumference difference, right — left, in 369 healthy men (bus and truck drivers).

range" subjects with calf girth difference less than ±2 mm. or a dextrality index of 95 to 104%, or both, of 132 strongly right-handed drivers, 31% had larger left calves, and of 27 strongly left-handed drivers, 68% showed larger right calves.

CLINICAL APPLICATION

To test the theoretical expectations, calf girth differences were noted in 109 consecutive patients at Presbyterian Hospital who had acute thrombophlebitis of the leg veins. The measurements were made from 1949 through 1952 by many observers and by many techniques, but they were always made always at corresponding levels for the two calves. Mere notation of apparent presence or absence of swelling outnumbered actual measurement by about 10 to 1, possible evidence that measurements were made chiefly in doubtful cases. Similar values were found among Negro and white persons on whom exact measurements were made (7 Negro and 54 white men and 7 Negro and 41 white women). No cases were found in which the larger calf was the unaffected one, nor were any included in which disease other than thrombophlebitis affected the legs. The expected increase in calf girth inequality between normal and thrombophlebitic subjects is shown in table 2.

However, these averages reveal nothing about the borderline cases, which pose the diagnostic problem. A "cut-off" point (the upper limit of normal) is desirable for excluding normal persons and detecting cases of thrombophlebitis. As shown in table 3, the most practical

TABLE 2.—*Calf Girth Differences in Health and in Acute Thrombophlebitis**

(Right — Left Calf, in Mm.)

	Normal Persons			Thrombophlebitic Patients		
Men	No.	Mean	S.D.	No.	Mean	S.D.
R > L	230	+6.7	4.6	30	+30.5	15.7
L > R	104	−4.4	2.8	31	−28.6	9.7
Women						
R > L	50	+4.9	3.5	23	+31.1	21.2
L > R	38	−4.9	2.8	22	−25.9	15.0

* Data on 35 normal men, 16 normal women, and 3 thrombophlebitic women with equal calf girths are omitted from table.

figures are ±15 mm. for men and ±12 mm. for women. Less than 4% of normal men exceed ±15 mm., whereas 80% of thrombophlebitic patients do. (The use of 2.5 S. D., beyond —10 and +16 mm., is even better, including only 1% of normal persons and detecting 84% of thrombophlebitic patients, but 15 mm. is easier to remember). Only 1 to 2% of normal women's calf differences exceed ±12 mm., while 77% of the thrombophlebitic women's do.

No such arbitrary figure can make the diagnosis automatically; it is merely a guide to be used in conjunction with other diagnostic criteria. As always, the clinician makes his final judgment on the basis of all the evidence.

SUMMARY AND CONCLUSIONS

Bilateral differences in calf circumference of 369 healthy, white men (bus and truck drivers) are presented in the figure as a guide in the diagnosis of thrombophlebitis and possibly in the diagnosis and management of neuromuscular and bone or joint disease. The men,

TABLE 3.—*Calf Girth Differences in Acute Thrombophlebitis: Percentages Exceeding Indicated Differences*

(Right — Left Calf, Mm.)

	No.	±2 S.D.*	±2.5 S.D.*	±3 S.D.*	±12	±15
Men	61	−10	−13	−16	....	....
		+16	+19	+22	....	....
		84%	84%	75%	....	80%
Women	48	±10	±12.5	±15	....	....
		77%	75%	65%	77%	....

* Standard deviation based on 369 normal men and 104 normal women.

whose ages ranged from 20 to 64 years and averaged 36 years, had an average calf girth difference of 3.2 mm., right exceeding left, with a standard deviation (S. D.) of ±6.4 mm., confirming previous reports on younger men. Similar measurements for 104 healthy white women averaging 32.2 years old and without previous disease of the extremities, show no difference between the calves.

Based on 109 consecutive cases of acute thrombophlebitis, as well as on normal distributions, the most

V 1
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practical upper limit of normal calf girth difference appears to be ±15 mm. in men and ±12 mm. in women. Calf girth difference in about 4% of normal men and 80% of thrombophlebitic men exceeds ± 15 mm. In about 1 to 2% of normal women and 77% of thrombophlebitic women it exceeds ± 12 mm. Negroes with thrombophlebitis show calf girth differences comparable to those of white patients, so the figures apply to both races. In normal men, there is no correlation between age and calf circumference, age and calf girth difference, average calf girth and calf girth difference, or right or left calf girth superiority and handedness.

Variable individual ability to discern calf inequality and the difficulty of trained anthropologists in estimating 10 to 15 mm. differences in calf size make routine measurement desirable in suspected thromboembolic, neuromuscular, and bone or joint disease.

620 W. 168th St. (32) (Dr. Damon).

ASYMPTOMATIC FRACTURES IN OSTEOPOROTIC SPINES OF THE AGED

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Asymptomatic vertebral fractures in osteoporotic spines of the aged stand out in sharp contrast to the urgency and seriousness of acutely traumatized spines in younger persons. The peculiarities of these fractures form the basis of this report. In the Home for the Jewish Aged, in Philadelphia, 136 residents were selected for study because they were ambulatory and in good health. Their ages ranged from 63 to 95 years. Anteroposterior and lateral x-ray examinations of the spine were made as part of the clinical survey in each case.

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53

RESULTS

Fractures were found in 35 (25.7%) of the 136 cases, in 11 (20%) of the 54 men and in 24 (29%) of the 82 women (table 1). Single fractures in the dorsal spine alone occurred in 14 cases and in the lumbar spine in 7 cases. When multiple fractures were present, they were confined to the dorsal spine, in 6 cases, or in the combined dorsolumbar area, in 9 cases; multiple fractures always were found in association with one or more fractures in the dorsal spine. The 12th dorsal and the first lumbar vertebrae were most frequently fractured. Only one or two fractures were found in most spines, but there were as high as seven fractures in one case (table 2).

All spines revealing fractures were osteoporotic, but, unfortunately, the intensity could not be determined, since no satisfactory measure of osteoporosis has yet been devised.[1] The deossification of the spine, in many cases, was associated with codfish deformities of the vertebral bodies. Contractures, narrowing, and contour irregularities of the intervertebral spaces adjoining the fractures were noted uniformly, but otherwise these spaces usually were widened and sometimes were almost spherical. Hypertrophic osteoarthrosis or degenerative changes were found in all spines of this group. Seldom were these changes generalized, and in the patients with fractures, the hypertrophic irregularities were most marked in the area of fracture. Kyphosis of the upper dorsal spine was common to the whole group. Rarely was kyphosis or scoliosis localized to the fractured site.

Most fractures involved the upper anterior portion of the vertebral body (fig. 1). Occasionally, the entire upper surface of a body showed evidence of collapse with herniation of the nucleus pulposus into the crushed area,

TABLE 1.—*Asymptomatic Fractures of Spine Among 136 Aged (Fifty-Four Men and Eighty-Two Women)*

Age, Yr.	Men No.	Women No.
65-69	0	2
70-74	3	4
75-79	2	8
80-84	4	6
85-89	1	2
90-94	1	1
95-100	0	1
Total	11	24

TABLE 2.—*Number and Location of Asymptomatic Fractures of Spine Among 136 Aged*

Case No.	Location Dorsal	Location Lumbar
1	8, 9, 10, 12	1, 3
2	12	..
3	5	1, 3, 4
4	10	..
5	7, 8	..
6	9, 10, 11, 12	..
7	9	3
8	10, 11, 12	..
9	12	1
10	12	..
11	12	..
12	12	1
13	..	1
14	5	..
15	11	..
16	5	..
17	9	..
18	4, 5	..
19	6	..
20	..	3
21	6	..
22	..	1
23	6	..
24	..	1
25	3, 5, 7, 11	1, 2, 4
26	12	..
27	9, 12	..
28	12	2
29	6	..
30	..	3
31	..	2
32	12	1
33	4, 5	..
34	12	..
35	..	1

From the Albert Einstein Medical Center, Northern Division, and the Home for the Jewish Aged.

1. Gershon-Cohen, J.; Schraer, H.; Sklaroff, D. M., and Blumberg, N.: Dissolution of Intervertebral Disc in the Aged Normal: The Phantom Nucleus Pulposus, Radiology, to be published.

(fig. 2). The close resemblance of these fractures and the secondary changes of healing to those fractures following an acute injury was remarkable. The case shown in figure 3 fortuitously furnished evidence of all phases

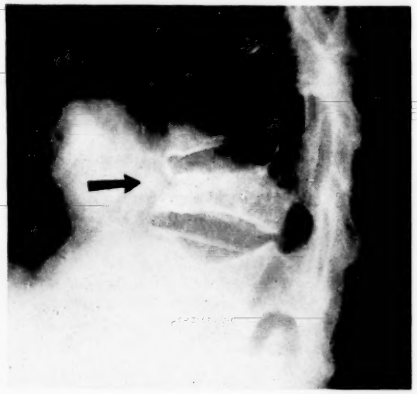

Fig. 1.—Asymptomatic healed fracture of upper anterior portion of the body of the 12th dorsal vertebra in a man 76 years old.

of fracture without symptoms in the aged. The fracture when first seen in this 81-year-old woman was recent and resembled that which might have occurred after acute trauma in a younger person (fig. 3); yet she did not give a history of recent injury, and she had no complaints.

Fig. 2.—Asymptomatic healed fracture with disruption of the proximal nucleus pulposus, which has herniated into the body of the 2nd lumbar vertebra in a 73-year-old man.

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No restriction was noted in her activities, which comprised keeping her room tidy and moving about freely. Too impatient to wait for an elevator, she walked up and down one flight of stairs at least three times daily for her meals. Because the fracture of the first lumbar vertebra obviously was recent, even though she gave no history of injury, this patient was watched with the expectation that, sooner or later, she would complain of back pains and require orthopedic attention. Nothing like this occurred. She had no complaints, and repeated x-ray examinations (fig. 4) showed complete healing without deformity or disalignment, in spite of the fact that no treatment was given.

Not a single history of fracture was elicited in this group, and, therefore, not a single patient was treated for fracture. Even more remarkable was the absence of any clinical findings indicating disability. Persons with fractured vertebrae could not be distinguished from those

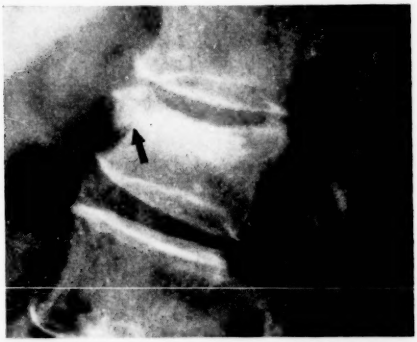

Fig. 3.—A recent asymptomatic fracture through the upper anterior portion of the 1st lumbar vertebra in an 81-year-old woman.

without fractures, just as was observed in six similar cases by Nathanson and Lewitan.[2]

COMMENT

In older persons, retardation of osteoblastic activity is involved, rather than bone absorption. Aggravating factors may be present, such as a decreased blood supply due to arteriosclerosis, evidence of which was prominent in the collateral x-ray studies of the aorta and large vessels in this series of cases. Steindler suggests an increased frequency of focal aseptic necrosis resulting from a precarious blood supply as an explanation for the ease of traumatism in the bones of the aged.[3] Among other causes for senile atrophy, he mentions defective alimentation and inanition, with loss of calcium and phosphorus. Since these substances are still excreted in the urine, the loss is covered at the expense of the skeletal system. Other factors to be considered in the aged are the higher incidence of deficient gastric hydrochloric acid and hepatic and pancreatic secretions. Such factors lead to inadequate absorption and utilization of ingested calcium, fats, and vitamins A and D. Finally, hypofunction of the endocrine system must be considered, particularly of the pituitary, thyroid, parathyroids, and gonads. It is

no wonder that a simple panacea has not been discovered for the prevention or cure of senescent deossification.

Fig. 4.—The fracture shown in figure 3 after it had healed. There were no symptoms, and no therapy was given.

Since the bones of the aged are brittle and fragile, they are susceptible to fracture. The spinal column particularly shares in this process under the continuous influence of body weight. That fractures should occur without producing symptoms, as in younger persons, comes as a surprise. The medicolegal implications that may arise under such circumstances can be misleading and expensive. Solid healing of these fractures without special treatment evidently occurs, because the anatomic defect of the fractured vertebra, even though marked sometimes, does not interfere with the stability of the spine. A similar conclusion in a study of fractures among miners was reached by Nicoll.[4] Also, already established is the efficiency of conservative treatment of spinal fractures in the aged.[5]

SUMMARY

Among 136 healthy residents of a home for the Jewish aged in Philadelphia, one or more asymptomatic fractures of vertebrae were found in 35 (26%). The 12th dorsal and the first lumbar segments were most frequently involved. Osteoporosis, with degenerative changes, occurred in most cases, but no unusual disalignment was present at the level of the fractures. Moreover, detailed clinical examinations revealed no objective evidence of these untreated fractures, in spite of their close resemblance to those occurring after acute trauma in the younger person.

255 South 17th St. (Dr. Gershon-Cohen).

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A FIVE YEAR STUDY OF TUBERCULOUS CHILDREN TREATED WITH STREPTOMYCIN

CHAIRMAN'S ADDRESS

E. T. McEnery, M.D., Chicago

The role of streptomycin in the treatment of tuberculosis has been well established. This has been observed from the reports of many authors and from personal experience with a large number of tuberculous children who were treated with streptomycin.

In the fall of 1947, streptomycin therapy was begun on a selected group of 21 children in the Chicago Municipal Tuberculosis Sanitorium. These patients had been under observation for periods varying from 2 months to 36 months, and all of them had positive indications of tubercle bacilli from sputum, gastric washings, or bronchial secretions. The positive sputum tests were confirmed by cultures and guinea pig inoculations. The patients all had positive reactions to Mantoux tests, and roentgenograms showed lung infiltrations of varying degrees. A complete history was taken on each child, with special emphasis on contact with a person having tuberculosis. In all cases, the diagnosis of an active pulmonary process was made before any streptomycin therapy was started.

Each case was closely observed clinically during the course of treatment. Roentgenograms were taken once a month during use of the drug and every two to three months after termination of streptomycin treatment. All the patients were kept on essentially the same rest program. Blood cell counts and sedimentation rates were taken once a month. After streptomycin therapy was stopped, cultures and stained smears of gastric washings and bronchial secretions were made. Two negative examinations of gastric washings and one negative examination of bronchial secretions were required before a child could be discharged from the sanitorium.

TYPES OF TUBERCULOSIS

Of the 21 patients, 18 (6 white and 12 Negro) were classified as having a progressive primary lesion. This is a relatively early lesion, sometimes evident on physical examination by impaired percussion note and suppressed breath sounds, but usually not causing any other changes in physical signs. The roentgenograms show a soft infiltrative process extending out from the hilum to the periphery of the lung, with some enlargement of the hilar shadows. Three cases (in Negroes) were classed as far-

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From the Chicago Municipal Tuberculosis Sanitorium.

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advanced adult type of tuberculosis with marked pulmonary involvement. Physical examination revealed impaired resonance, rales, and signs of cavitation. Large cavities seen in the roentgenograms supported the diagnosis of far-advanced pulmonary lesions. These children had failed to respond to bed rest and artificial pneumothorax and had been on a downward course for two years. The ages of the 18 children with primary lesions

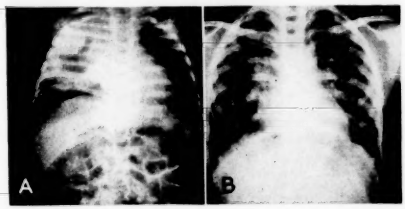

Fig. 1. (case 1).—*A*, roentgenogram showing primary progressive lesion of the right lung in November, 1947, before streptomycin therapy was begun. *B*, roentgenogram taken in November, 1952.

varied from 8 months to 11 years, while those with the adult type of lesion were 11, 12, and 13 years old respectively. There were 6 white children and 15 Negro children; 9 were boys, and 12 were girls.

When streptomycin therapy was begun, the majority of the patients received 0.5 gm. in divided doses, twice daily. Later, this was decreased to 0.3 gm., once daily. This dosage was followed for children of all ages and weights. Most of the children received the drug for 120 days; a few received it for 90 days. Blood levels of streptomycin were not checked as a routine procedure, but spot checking on some patients showed adequate therapeutic levels.

Toxic reactions were not seen with the use of these small doses. No auditory or vestibular disturbances were noted during streptomycin therapy, and none developed after the drug was withdrawn. Three patients became resistant to the drug. One of them, a patient with a

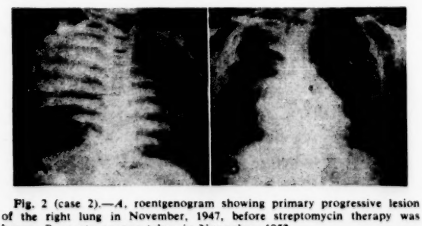

Fig. 2 (case 2).—*A*, roentgenogram showing primary progressive lesion of the right lung in November, 1947, before streptomycin therapy was begun. *B*, roentgenogram taken in November, 1952.

progressive primary lesion, died of tuberculous meningitis during treatment. Two of the adult type of pulmonary lesions remained resistant to the drug. The initial clinical response to the drug was the same in all cases. This usually occurred in 7 to 10 days. Temperatures returned to normal levels, appetites improved, and there was a definite change in the children's dispositions; they were less irritable and more cooperative.

In the instances of progressive primary lesions, even though the general condition of the child improved within 10 days, it was at least a month before any change was noted in the physical findings. In those with the adult type of lesion, the child's appetite improved, and there seemed to be a good general response. The pulmonary process became progressively worse, however, and two of these three children died within a year after streptomycin therapy was begun. The other patient was operated on, and he made an excellent recovery. Changes in the monthly roentgenograms appeared slowly after streptomycin therapy was begun. It was usually three months before a definite change could be detected. Improvement was noted to continue months after streptomycin therapy was discontinued.

PROGRESSIVE PRIMARY LESIONS

CASE 1 (fig. 1).—A 7-month-old Negro boy was admitted to Cook County Hospital with a cold. Gastric washings contained tubercle bacilli. The source of infection was unknown. He was admitted to the Municipal Tuberculosis Sanitorium four months later. Physical examination revealed a poorly nourished infant with impaired percussion resonance at the apex of the right lung, with rales and amphoric breathing. His general condition was very poor. The child was given

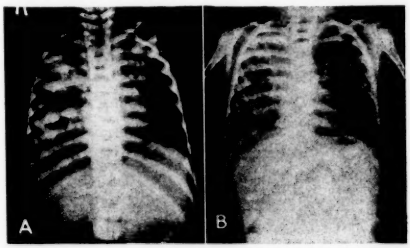

Fig. 3 (case 3).—*A*, roentgenogram showing extensive bilateral lung involvement in February, 1948, when streptomycin therapy was begun. *B*, roentgenogram taken in October, 1948, revealed clearing on both sides with extensive calcification. The patient died of tuberculous meningitis three weeks later.

0.5 gm. of streptomycin daily for 120 days. He remained in the sanitorium until December, 1949, when he was discharged to a foster home. In November, 1952, his general condition was good. There were no unusual physical findings, and the shadows seen on the roentgenograms were minimal on the right side. No relapse had occurred during five years.

CASE 2 (fig. 2).—A 2-year-old Negro girl had contracted tuberculosis from a cousin. She was transferred from Cook County Hospital to the Municipal Tuberculosis Sanitorium. Gastric washings were positive for tubercle bacilli. The patient was in serious condition. Physical examination revealed impaired resonance over the whole right side, rales, and amphoric breathing. Streptomycin, 0.25 gm. daily, was given for 120 days. This child remained in the sanitorium for six months and was then discharged to her home. In November, 1952, her condition was good. There were no unusual findings on physical examination, and roentgenograms showed only a slight infiltration on the right side. At the present time she is considered a healthy child.

CASE 3 (fig. 3).—A 3-year-old white boy was admitted to the Children's Memorial Hospital with what was thought to be a terminal condition, i. e., far-advanced lung disease and draining sinuses in the neck. Physical examination showed a seriously ill, markedly emaciated child with extensive pulmonary lesions. Impaired resonance and breath sounds were present at both right and left lung apexes, with marked in-

volvement at the left base. In addition, rales and amphoric breathing were noted at both apexes. Gastric washings were positive for tubercle bacilli. The patient was given 0.5 gm. of streptomycin four times daily. After 10 days he was transferred to the Municipal Tuberculosis Sanitorium.

On admission the child was very ill and a diffuse erythematous rash covered his body. The pulmonary condition had progressed, and it appeared that the patient would survive only a few days. He was given fluids intravenously and blood transfusions. Because of the rash, streptomycin was withdrawn. After five days the rash faded, and streptomycin therapy (0.1 gm. daily) was resumed. In two weeks the patient's temperature returned to normal, and he began to improve. Changes in the roentgenograms were slow to appear, and the physical findings showed little progress. The sinuses in his neck gradually closed; he gained weight and was ambulant. The course of streptomycin treatment was 120 days. Five months after streptomycin therapy was discontinued he became nauseated, showed other signs of meningitis, and died within two weeks. This child had a progressive primary lesion. The gastric washings remained positive for tubercle bacilli after streptomycin therapy had been discontinued.

At necropsy the lungs showed marked healing of far-advanced, ulcerative tuberculosis. There was cavitation of most of the middle lobe with a residue of calcified, caseous material around the margins and numerous granular concretions in all the interstices of the cavity. The calcified foci appeared to be older than any seen previously in a 4-year-old child. The cavity generally had a smooth wall, some of which was becoming lined with epithelium. The complete autopsy findings showed that considerable healing changes had taken place before meningitis caused the patient's death. The healing was attributed to the effect of streptomycin.

Fig. 4 (case 4).—*A*, roentgenogram taken in November, 1947, before streptomycin therapy was begun. *B*, roentgenogram in April, 1949. The patient died one and a half years after streptomycin therapy was begun.

ADULT TYPE OF LESION

CASE 4 (fig. 4).—A 12-year-old Negro girl had a cough, had lost weight, and felt tired. She was admitted to the Municipal Tuberculosis Sanitorium dispensary. Tubercle bacilli were found in sputum examinations. Physical examinations showed a thin, seriously ill child with cavities at the apexes of both lungs. Bed rest for three months did not arrest the progress of the disease. Streptomycin therapy (0.5 gm. daily) was begun four months after her admission and was continued for 120 days. The patient's course was gradually downhill, and she died a year and a half after streptomycin therapy was begun.

COMMENT

The majority of these children were kept in the sanitorium for a period of one year. They were discharged to their own homes after two gastric washings and a bronchial aspiration were negative for tubercle bacilli on both smear and culture. During the next four years they were examined every six months. Physical examinations were made, and roentgenograms of the chest were taken. All of the children were followed up; three who moved out of the area were given physical examinations by their own physicians.

Mortality in the group has been low; two children with progressive primary lesions died of tuberculous meningitis, one while under treatment and the other after release from the hospital. One child with a primary lesion died after surgery of the lung. Two children with the adult type of lesion died one and two years respectively after drug therapy was started. The drug had little effect on the adult type of lesion. After showing general improvement when streptomycin therapy was begun, these patients had a slow downward course until death. The third patient in this group had lung surgery and made a good recovery. Aside from these cases, none of the children has had a relapse. They have not received any form of medication at home and have lived normal active lives.

On a basis of clinical, roentgenographic, and bacterial observations, improvement that resulted from the original course of treatment has been sustained over a period of at least five years. During this time these children have not received any additional medication, and their activities have not been restricted. The parents cooperated in follow-up study and made an effort to increase the children's daily rest. No special effort was made to keep them on a strict diet.

Primary progressive lesions should be observed long enough to determine if conservative treatment will bring about a suitable response in the pulmonary process. If the lesion is spreading during the period of observation, streptomycin should be given. With the three cases of adult type of lesions the results have not been encouraging. In order to obtain good results in this type of tuberculosis, medical management must consist not only of streptomycin therapy but of combinations of tuberculostatic drugs and surgery if necessary. These measures must be employed before the condition becomes widespread and the prognosis is poor.

CONCLUSIONS

Progressive primary tuberculous lesions in children respond well to streptomycin therapy, and the results obtained during the first year of treatment and observation are well maintained for a follow-up period of at least five years. The seriousness of the adult type of lesion cannot be overemphasized. This type of lesion must be recognized early and must be treated energetically with medical management, rest, pneumoperitoneum, and surgery. Even with these measures, results leave much to be desired.

4458 W. Madison St.

Pain of Gallbladder Disease.—The pain pattern of gallbladder disease may simulate that of peptic ulcer even to the presence of pain at night and relief by administration of an antacid. Likewise, in exceptional cases, a duodenal ulcer involving the hepatoduodenal ligament is capable of producing enough inflammatory reaction around the common bile duct to produce jaundice. The duodenal ulcer which perforates into the adjacent gallbladder is less common, however, than the large gallstone which perforates the gallbladder and the duodenum to form a fistula.—L. A. Smith, M.D., Pain Patterns in Diseases of the Upper Part of the Abdomen, *Proceedings of the Staff Meetings of the Mayo Clinic*, July 29, 1953.

RADIOACTIVE GOLD IN THE TREATMENT OF MALIGNANT EFFUSIONS

William B. Seaman, M.D., Alfred I. Sherman, M.D.
and
MacDonald Bonebrake, M.D., St. Louis

Since the majority of patients with cancer eventually succumb to their disease, the practicing physician frequently must deal with the problem of palliation. One of the complications of advanced cancer is the accumulation of fluid in the peritoneal or pleural cavities, which not only mechanically interferes with the function of the lungs and gastrointestinal tract but also depletes the body of proteins. Clark [1] reports a 29% incidence of significant effusions (over 1,000 cc. of fluid) in 266 consecutive autopsies on men with malignant disease.

A radioactive isotope was first used to treat ascites due to peritoneal carcinomatosis by Muller in 1945, who used Zn^{65} prepared in a cyclotron. In 1950 [2] he reported on eight patients treated by intraperitoneal injection of colloidal Au^{198}, including one in whom both intrapleural and intraperitoneal injections were performed. The inhibition of fluid formation noted in these patients has encouraged other clinical trials. Several reports already published have confirmed the efficacy of this isotope in slowing or stopping the formation of fluid in the pleural or peritoneal cavities. In the small number of cases reported to date, the incidence of favorable results has varied from 30 to 90%.[3]

The mechanism of this therapeutic agent is not clearly understood. Although radioactive gold has both a beta and a gamma emission, the beta particles account for most of the radiation effects produced in the tissues. This is probably a surface phenomenon, since the maximum range of the beta particle in tissue is 3.8 mm. and the average path well under 1 mm. The inhibition of fluid formation might be the result of a direct effect on the cancer cells, since Goldie and Hahn [4] have demonstrated that the intraperitoneal injection of radioactive gold has a lethal effect on free floating sarcoma cells in the peritoneal fluid of mice. Andrews and associates [5a] have observed the disappearance of free tumor cells from fluids following gold therapy in human subjects. On the other hand, the mechanism could be a nonspecific effect resulting from the production of pleural and subpleural fibrosis. Knisely and Andrews [5] have described the characteristic histological findings following radioactive gold therapy as consisting of fibrous thickening of pleura or peritoneum with a layer of fibrin on the surface. Frequently tumor cells could be identified very near the surface. Obliteration of the pleural space was not a constant finding.

The handling of amounts of radioactivity involved in this type of therapy is potentially hazardous and should be carried out only by personnel familiar with the dangers and methods of protection. The details of technique and handling have been published elsewhere.[6]

This report is based on 74 patients who have been treated with Au^{198} for metastatic cancer in either the peritoneal or the pleural cavities or both (table 1). In this group are two patients with proved malignant pericardial effusions that have not been previously described in the literature. This series has been divided into two groups, pleural and peritoneal, which will be discussed and evaluated separately. Eight patients received both intrapleural and intraperitoneal gold and were included in both groups.

TABLE 1.—*Results of Therapy with* Au^{198}

	Intra-pleural	Intra-peritoneal
Total no. of patients treated	40	42
No. surviving over one month	26	27
No. surviving over six months	9	15
No. lost to follow-up	3	0
No. with palliation achieved	20	20

PLEURAL EFFUSIONS

A total of 40 patients with malignant pleural effusions were treated with radioactive gold during the period of July, 1951, to May 1, 1953. All of these were patients with proved cancer, and in most the malignant nature of the effusion was confirmed by the demonstration of malignant cells in the pleural field. We do not believe that every patient with a malignant effusion is necessarily a candidate for radioactive gold therapy. Since the main therapeutic effect is the inhibition of fluid formation, therapy is usually not indicated unless the patient is experiencing respiratory embarrassment attributable to the presence of fluid and repeated thoracenteses have demonstrated the rapid reaccumulation of the effusion. The dose used in almost all instances was 100 mc. The gold used in this laboratory is calibrated by a gamma ray comparison to a radium source. This measurement is performed by means of a modified Lauritzen electroscope. It should be noted that the values obtained do not agree in general with the calibration supplied by the Abbott Laboratories, our values running approximately

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From the Department of Radiology (Dr. Seaman) and the Department of Obstetrics and Gynecology (Drs. Sherman and Bonebrake), Washington University School of Medicine.

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6. Ter-Pogossian, M., and Sherman, A. I.: Handling of Radioactive Gold for Therapeutic Purposes, Nucleonics **10**: 23 (March) 1952.

20% higher. Thus, a dose of 100 mc. according to our calibration corresponds to about 80 mc. as supplied by Abbott Laboratories.

In five patients bilateral intrapleural injections of radioactive gold were given. In two instances this was done at a single sitting, in two others a week intervened between the two injections, while in the fifth patient a right pleural effusion was treated with radioactive gold nine months following similar therapy for a left pleural effusion. Re-treatment of the same side was done in two cases. One patient in whom 75 mc. of Au^{198} inhibited fluid formation for three months was re-treated with 100 mc. and required no further thoracenteses until she died five months later. Another patient was re-treated three months after a first injection had failed to control the effusion. The second treatment is too recent to evaluate satisfactorily.

Eight patients received radioactive gold in the peritoneal and pleural cavities. In five patients with ovarian tumors, both the pleural and peritoneal effusions were controlled in three while in the other two only the ascites were controlled. Two patients with a generalized lymphoma and a gastric cancer, respectively received benefit from the intrathoracic injection but none from the abdominal injection. One patient received no benefit from either the peritoneal or intrapleural gold.

Some patients may continue to accumulate fluid for several weeks and still have a favorable response. The injected gold apparently becomes fixed to the serous surfaces, since measurements of radioactivity of pleural and ascitic fluid reveal that in six to seven days there is only 5 to 10% of the initial radioactivity remaining even after correction for the radioactive decay.[7] Because of the rapid decay and this fixation phenomenon, very little of the radioactivity is lost after one week if a repeat thoracentesis is necessary for relief of symptoms. The following case report illustrates an excellent response to radioactive gold therapy.

REPORT OF A CASE

CASE 1.—A 50-year-old woman had a left radical mastectomy in January, 1950, for breast cancer. In July, 1952, the onset of dyspnea and left chest pain resulted in the discovery of a left pleural effusion (fig. 1*A*). During the subsequent nine days, three thoracenteses were performed with the removal of a total of 4,800 cc. of grossly bloody fluid. On July 28, 1952, 100 mc. of Au^{198} were injected into the left pleural space. The patient improved markedly and her dyspnea completely disappeared. A chest roentgenogram in December, 1952, five months later showed pleural thickening and a small pleural effusion or pleural thickening in the left costophrenic angle (fig. 1*B*). The last roentgenographic examination in April, 1953, showed the development of a right pleural effusion and mediastinal adenopathy but no change in the appearance of the left side of the chest.

The result of this type of therapy as given in table 1 shows that some palliation occurred in about half of the entire group. The achievement of palliation was based solely on inhibition of fluid formation. This was difficult to determine in the 11 patients who died within one month of treatment. Of the 26 patients who survived longer than one month, significant palliation was accomplished in 20. Three patients were lost to follow-up. There seemed to be no relation between the site of the primary tumor and the response to therapy (table 2).

PERICARDIAL EFFUSION

Two patients with malignant pericardial effusions associated with clinical evidence of cardiac tamponade were treated with radioactive gold. One patient was a man with a carcinoma of the lung in whom the intrapericardial injection of 90 mc. of Au^{198} failed to prevent the rapid reaccumulation of fluid although injection of 100 mc. into the left pleural space did inhibit pleural fluid formation. The other patient had an excellent response. Since treatment of malignant pericardial effusions with radioactive colloidal gold has not been previously reported, the second case is briefly described.

TABLE 2.—*Results in Intrapleural Effusions Treated with* Au^{198}

Source of Primary Lesion	No. of Patients	No. Survived Over 1 mo.	No. Survived Over 6 Mo.	No. with Palliation Achieved
Breast	12	5	3	5
Lung	12	10	1	7
Ovary	7	5	2	4
Lymphoma	5	3	2	2
Nasopharynx	1	1	0	1
Stomach	1	1	1	1
Unknown	2	1	0	0
Total	40	26	9	20

CASE 2.—A 55-year-old white woman entered Barnes Hospital because of increasing dyspnea, orthopnea, and ankle edema of three weeks' duration. Twelve years earlier a right radical mastectomy had been performed for breast cancer. Examination disclosed a weak, cyanotic woman with severe orthopnea, venous distention, hepatomegaly, and ankle edema. The heart sounds were of fair quality, but a pulsus paradoxicus was present. There were enlarged hard lymph nodes in the left axilla, left supraclavicular region, and the cervical region bilaterally. The venous pressure was 320 mm. of water. Chest roentgenograms revealed a large heart with poor pulsations and a small left pleural effusion (fig. 2*A*). A pericardial tap removed 20 cc. of grossly bloody fluid, and 20 cc. of air was injected. A subsequent chest roentgenogram confirmed the pericardial location of the fluid and air. Malignant cells were identified in the pericardial fluid. Because of the rapid reappearance of pericardial fluid following repeated pericardial aspirations with signs of cardiac tamponade, 100 mc. of Au^{198} were injected into the pericardial sac on Nov. 8, 1952. The patient gradually improved and was discharged one week after treatment.

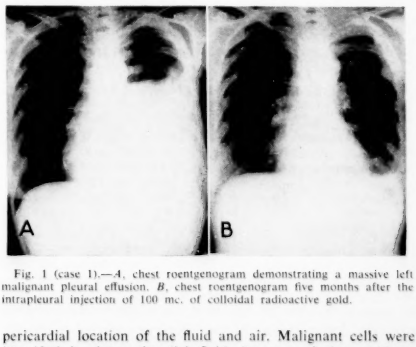

Fig. 1 (case 1).—*A*, chest roentgenogram demonstrating a massive left malignant pleural effusion. *B*, chest roentgenogram five months after the intrapleural injection of 100 mc. of colloidal radioactive gold.

7. Andrews, G. A.; Root, S. W., and Knisely, R. M.: Metabolism and Distribution of Colloidal Au^{198} Injected into Serous Cavities for Treatment of Effusions Associated with Malignant Neoplasms, Cancer **6**: 294 (March) 1953.

A reexamination 10 weeks after hospital discharge revealed a heart of normal size, with regular heart sounds of good quality. Orthopnea had completely disappeared and the patient complained only of mild exertional dyspnea. There was no ankle edema. A chest roentgenogram showed no abnormalities (fig. 2*B*). The patient was last seen on March 24, 1953, four and one-half months, following the radioactive gold therapy. At this time the chest roentgenogram was still negative, and the patient complained chiefly of symptoms referable to enlarging bilateral cervical nodes.

ASCITES

Forty-two patients with ascites have been treated with radioactive gold, including eight patients in whom malignant effusions in both chest and abdomen were treated.

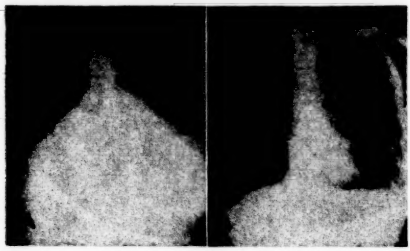

Fig. 2 (case 2).—*A*, chest roentgenogram at time of hospital entry showing cardiac enlargement due to a malignant pericardial effusion. *B*, chest roentgenogram 10 weeks after the intrapericardial injection of 100 mc. of colloidal radioactive gold showing the normal appearance of the heart and lungs.

The presence of cancer was confirmed in all of this group by either the demonstration of cancer cells in the ascitic fluid or by biopsy at the time of surgery. In 37 patients a laparotomy was done. In the remaining five cases the disease was considered to be too far advanced to justify laparotomy.

The sites of origin of the tumors producing an accumulation of fluid in the peritoneal cavity are presented in table 3. Cancer of the ovary was the most frequent cause

TABLE 3.—*Results in Ascites Treated with* Au^{198}

Source of Primary Lesion	No. of Patients	No. Survived Over 1 mo.	No. Survived Over 6 Mo.	No. with Palliation Achieved
Ovary	30	21	13	16
Endometrium	2	2	0	1
Stomach	5	1	1	1
Gallbladder	1	0	0	0
Rectum	1	0	0	0
Lymphoma	1	1	1	1
Breast	1	1	0	1
Mesothelioma	1	1	0	0
Total	42	27	15	20

of ascites in this group, being present in 28 patients (66%). Other causes of ascites were cancers arising in the stomach, rectum, gallbladder, and endometrium.

Follow-up studies on this group clearly indicate the poor prognosis of persons with malignant abdominal effusions. Only 24 were still alive at the end of one month; six months after the development of ascites 15 were still alive. Many patients were considered to be in terminal condition at the time of treatment, and 13 did not survive one month. The achievement of palliation was based solely on the inhibition of fluid formation, which was difficult to evaluate in those who died within one month. Of 27 patients who lived longer than one month, 20 (74%) were helped by the treatment. This included 16 of 21 patients with ovarian cancer, 1 of 2 with endometrial cancers, one who is still surviving with gastric cancer, and one patient with a retroperitoneal lymphoma.

The latent period between the diagnosis of the malignant disease and the onset of ascites has been studied and was found to be quite variable. This was also true for the rate of fluid formation. Five patients were asymptomatic for six months following surgery and roentgen therapy. When ascites appeared it reaccumulated so rapidly that paracenteses were necessary at weekly intervals. These patients were then treated with radioactive gold, and fluid accumulation was retarded for as long as four to six months. One patient remained subjectively well for 18 months when ascites developed. After treatment with 150 mc. of gold, she remained well for four months, at which time an additional 75 mc. of gold resulted in three more months of palliation. Twenty-four of the 30 patients with ovarian cancer had received previous external roentgen therapy that had failed to inhibit the production of ascites.

COMMENT

This mode of therapy has been well tolerated by the patients in almost all instances. No significant amount of radiation sickness has been encountered. A few patients have complained of mild nausea and anorexia of several days' duration. A low grade fever occurred in several patients following the intrapleural injection of gold but its causal relationship to the therapy was obscure.

A potentially serious effect of the gold is depression of hematopoiesis. A small portion of the gold gets into the blood stream from which it is removed by the liver, spleen, and bone marrow. This fraction plus the irradiation of the bone marrow by the gamma emissions may result in bone marrow depression. Botsford and coworkers [8] reported four cases of aplastic anemia following therapy with radioactive colloidal gold. In three of these patients the gold was administered by direct injection into a tumor mass while the fourth patient was treated by an intraperitoneal injection. In the autopsy studies of Knisely and Andrews [5] on patients treated with radioactive gold, bone marrow damage was not prominent. In our group of patients, the only hematological damage noted clinically was a mild leukopenia.

Patients should be hospitalized for this procedure so that precautions regarding radiation hazards may be observed. Hospitalization is required for all patients while they harbor more than 30 mc. of activity.[9]

The dosage actually delivered to the serous membranes varies according to the area covered, the depth to which it is covered, and the degree of dilution by the effusion remaining after the aspiration. Injection of gold into a loculation will result in a very high dosage while other areas receive no irradiation. The intraperitoneal injection of 100 mc. into the average adult peritoneal surface of 30,000 sq. cm. results in an average surface dose

8. Botsford, T. W.; Wheeler, H. B.; Newton, R. A., and Jacques, W. E.: Hypoplasia of Bone Marrow Associated with Radioactive Colloidal Gold Therapy, J. A. M. A. **151**: 788 (March 7) 1953.

9. Isotopics: Announcement of The Isotope Division, U. S. Atomic Energy Commission, **2**: 3 (July) 1952.

of about 3,000 rep, assuming it was all evenly distributed over the surface.[7]

SUMMARY AND CONCLUSIONS

The use of radioactive gold in the treatment of malignant pleural and peritoneal effusions in 74 patients is reported. About half of the entire group received palliation as determined by the inhibition of fluid formation. In the group of patients who lived longer than one month, distinct palliation was achieved in about 75%. Response to treatment was influenced by neither the site of the primary tumor nor the location of the effusion.

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AVULSION OF THE BRACHIAL PLEXUS

REPORT OF SIX CASES

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and
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The purposes of this paper are to report six cases of avulsion of the brachial plexus from the spinal cord and to direct attention to a diagnostic method for determining the precise location of the traumatic lesion. Often there are no visible signs of trauma to guide the examiner in determining the exact anatomic site of the nerve disruption. The most careful neurological examination fails to disclose, with certainty, the exact point of injury or to explain the nature of the injury present. The six following case reports illustrate nerve root avulsion from the cervical spinal cord, four of them proved by exploratory laminectomy.

REPORT OF CASES

CASE 1.—A 26-year-old Negro woman jumped from an automobile traveling 70 miles per hour seven months prior to her admission to Jefferson Hospital on May 27, 1946. She had sustained a laceration of the left scapuloclavicular region and a scapular fracture. There was immediate and complete paralysis of the left arm that remained unchanged. Examination revealed complete paralysis and atrophy of all the muscles of the left shoulder girdle, arm, forearm, and hand. There also was total anesthesia of the limb except for the second thoracic dermatome beneath the axilla. Horner's syndrome was present. Roentgenograms of the cervical spine, dorsal spine, and left shoulder revealed only osteoporosis of the bones of the shoulder.

It was concluded that an exploratory cervical laminectomy was advisable to determine the possibility of root avulsion from the cord and to render a more decisive prognosis. On June 6, 1946, the laminar arches of the fourth, fifth, sixth, and seventh cervical and (partially) of the first thoracic vertebrae were removed. On opening the dura no motor or sensory roots were seen coming off the left side of the spinal cord over this distance (fig. 1). They had been completely avulsed from the cord leaving only the torn foramens in the dura where they normally pierced it. These foramens had healed across. The cord itself did not appear to be damaged by the trauma, but there was no sign whatsoever of any motor or sensory roots reaching from the fourth cervical to the first dorsal segments. The roots on the right side were normal. The sixth cervical root on the left side was explored extradurally (through the foramen), and the avulsed ends were found about one-half in. (1.27 cm.) lateral to the dura.

CASE 2.—A 19-year-old Negro girl was thrown about 30 ft. (9 m.) during an automobile accident on April 14, 1947. She sustained superficial lacerations and complete paralysis of the right arm. On admission to Jefferson Hospital four months later, examination revealed atrophy of the right shoulder girdle and upper arm. The right forearm was moderately atrophied, and there was edema in the right hand. There was paralysis of the muscles of the right shoulder girdle (with scapular winging), the right arm and forearm (with wrist drop), and of all radially innervated muscles in the right hand. There was no paralysis of median or ulnar innervated hand muscles. There was hypalgesia in the fifth and sixth cervical dermatomes over the lateral aspect of the right arm and in the median and radial zones in that hand. Roentgenograms of the cervical spine and shoulders showed only a subcoracoid subluxation of the right humerus.

It was decided to explore the cervical spinal cord for prognostic reasons. On Sept. 5, 1947, right cervical hemilaminectomy was performed from the 4th to the 7th segments. The dura over this region was found torn at the exit of each nerve through it. The dura was opened, revealing that the sensory and motor roots had been completely avulsed from the spinal cord throughout the uncovered length. This included the fifth, sixth, and seventh nerves. It is possible that the roots below were avulsed also, but these were not uncovered. The spinal cord was perfectly denuded of all remnants of nerve fibers. The picture was that of a complete pulling away of the motor and sensory roots along with a portion of dura about 5 to 8 mm. in diameter at each spinal segment.

CASE 3.—A 28-year-old man was involved in a sledding accident 12 years before admission in which his head and left shoulder struck a tree. He was knocked unconscious and awoke one week later with complete paralysis of the left arm and numbness of the left hand. After the first two years strength gradually returned so that, on examination in April, 1948, he had a complete wrist drop, triceps paralysis, severe weakness of the deltoid and pectoral muscles, and moderate weakness of the supraspinatus, serratus magnus, rhomboid, brachioradialis, teres, and hypothenar muscles. There was anesthesia over the lateral aspect of the upper arm and forearm and over the radial zone in the hand. The biceps and triceps reflexes were absent. Subluxation of the humeral head was present.

On April 19, 1948, the left brachial plexus was explored above the clavicle and in the axilla. The middle trunk was healthy and of normal size. It was stimulated, but there was no muscular response. The upper and lower trunks were stimulated with violent, muscular reaction. The cords were then explored in the axilla; there was absence of electrical response from the posterior cord. Presumably the lesion was above the level of exploration and could be assumed to be an avulsion from the spinal cord.

CASE 4.—A 17-year-old Negro boy fell from a truck five months prior to admission to Jefferson Hospital on Sept. 11, 1951. He landed on his head and left shoulder and sustained immediate, continued, complete paralysis of the entire left upper limb and shoulder girdle. There was complete sensory loss from the fifth through the eighth cervical dermatomes. Severe atrophy was present in all muscle groups of the useless limb. The level of the lesion was at the spinal cord itself (fig. 2), similar to the description of the roentgenograms obtained by

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Murphey and Kirkland.[1] Significantly, there was no Horner's syndrome or any other spinal cord signs that would indicate such a central site of nerve disruption. The accurate prognosis afforded by the myelographic demonstration of an incurable lesion enabled us to transfer the patient to the orthopedic service. The useless limb was amputated in November, 1952, thus ridding the boy of an unsightly, burdensome member and facilitating his rehabilitation.

CASE 5.—In August, 1952, a 19-year-old youth fell 30 ft. through a trap door and landed on his left shoulder and knee. He sustained immediate paralysis and numbness of the left upper limb; this was unchanged when he was first seen eight weeks after the accident. Examination disclosed complete paralysis and muscle atrophy of the entire left upper limb, with absence of tendon reflexes, and anesthesia from the fifth cervical through the first thoracic dermatomes. A cisternal cervical myelogram with ethyl iodophenylundecylate (Pantopaque) showed no abnormalities.

Fig. 1.—Operative appearance of cervical spinal cord showing avulsion of both motor and sensory nerve roots on the left side (case 1). Normal root outlets greatly enlarged by the avulsed roots carrying with them a button of the surrounding dura.

In order to confirm our clinical impression hemilaminectomy was performed on Oct. 24, 1952. The fifth, sixth, and seventh cervical and first thoracic laminas were removed. The fourth, fifth, sixth, and eighth cervical and first thoracic roots were normal, but the seventh cervical roots had been avulsed from the spinal cord (except for one hair-thin nerve filament) and had disappeared out of the dural foramen, which was virtually an empty hole (fig. 3). Both motor and sensory roots were involved. There was no evidence of spinal cord damage or scar where the root had been joined to the cord. Four months later, sensation had returned down to a point just below the elbow, but complete paralysis was still present. This patient may continue to improve over the course of the next two years in view of the small amount of known permanent nerve damage.

1. Murphey, F., and Kirkland, J. W.: Myelographic Demonstration of Avulsing Injuries of the Brachial Plexus, read before the Clinical Congress of the American College of Surgeons, Chicago, 1949

CASE 6.—A 53-year-old Negro woman fell down three steps on Dec. 31, 1952, and landed on her left shoulder. There was immediate paralysis of all movements at the left shoulder, which remained unchanged at the time of her admission to

Fig. 2.—Myelogram revealing false diverticula at sites of dural tears associated with nerve root avulsion (case 4).

Jefferson Hospital two weeks later. Examination showed paralysis of the supraspinatus, deltoid, pectoral, biceps, and brachioradialis muscles, and pronator and supinator muscles of

Fig. 3.—Operative view of hemilaminectomy showing **(pointer)** dural foramen where only a hair-thin nerve filament from the seventh cervical root remains and (arrow) actual point of avulsion of the nerve root from the spinal cord (case 5).

the wrist. The latissimus dorsi and triceps muscles were weak. Appropriate atrophy was present. There was subluxation of the humeral head. The biceps and triceps reflexes were absent. There was no sensory loss. Hand function was good. Cisternal

cervical myelogram was done with normal results. Exploratory cervical hemilaminectomy was performed on Feb. 2, 1953, exposing the fifth cervical through the first thoracic roots intradurally on the left side. The fifth motor root was completely absent, since it had been avulsed from the cord (fig. 4). The sixth and seventh motor roots were grey and edematous. All the other roots of the brachial plexus were normal. Electrical stimulation of the affected roots produced motor responses at only such a high intensity of current that we assumed overflow of current to be responsible. Two weeks later arthrodesis of the shoulder was performed by the orthopedic department. Five weeks thereafter a Steindler transfer of the wrist flexors was performed to obtain flexion at the elbow. Although there was considerable return of pectoral function, it was assumed that further recovery was unlikely.

COMMENT

The brachial plexus originates from the spinal cord by means of the anterolaterally placed motor and posterolaterally placed sensory root filaments. At its point of origin, each root is disseminated on the cord into numerous, almost microscopic fibers. This continuous row of nerve root filaments extends the entire length of the cord. At every segmental level, a number of these filaments converge as the anterior (motor) and posterior (sensory) roots of the spinal cord before they pierce the dura to become the mixed spinal nerves. The brachial plexus is then formed from the undivided, anterior, primary rami of the fifth, sixth, seventh, and eighth cervical and first thoracic nerves, with possible minor contributions from the fourth cervical and second thoracic nerves.

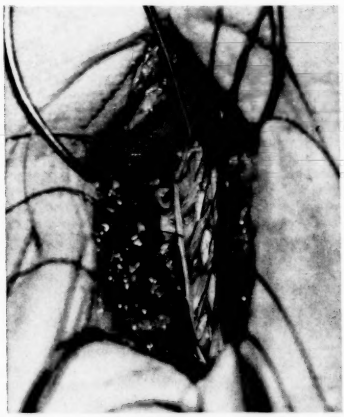

Fig. 4.—Operative view of hemilaminectomy showing (nerve hook) fifth sensory root; note complete absence of fifth motor root, greyish appearance of sixth and seventh motor roots, and normal appearing eighth sensory and motor roots. Black silk ligatures around the sixth, seventh, and eighth sensory roots.

It can readily be seen from this structural arrangement that the major resistance to any avulsive force applied to the brachial plexus must be exerted by the spinal dura at the foramens where the roots pass through this structure. Once this resistance, which is considerable, is reduced, there remain only the extremely weak, microscopic filaments with little actual strength to withstand a complete tearing of the nerve roots from the cord at the cord.

Any injury of the roots themselves will usually be manifested by: (1) Horner's syndrome, if the first thoracic root is affected; (2) paralysis of the rhomboid, levator scapulae, and serratus anterior muscles, if the fifth, sixth, and seventh roots are affected, insomuch as the dorsal scapular and long thoracic nerves arise prior to the trunks; and (3) possible signs of spinal cord damage, if the roots are avulsed from the cord itself. More distal paralyses and sensory deficits in the myotomes and dermatomes supplied by the affected roots will also be present. It is important to recognize any signs indicating the nerve roots themselves as the site of the lesion, since it is worthless to attempt nerve repair at this location, to render an accurate prognosis. It is obvious that the prognosis in nerve root avulsion is hopeless. Rehabilitative surgery, such as amputation, arthrodeses, or tendon-muscle transfers, can be done at the earliest possible opportunity.

There is almost nothing in the medical literature to indicate any actual observation of the spinal cord denuded of its nerve roots in the pathogenesis of brachial plexus avulsion. Loyal Davis [2] noted, in a study of 47 cases of brachial plexus injuries, that in only 2 cases was complete avulsion of the roots from the spinal cord observed, and it was associated with other lesions of the spinal cord. In these cases extraspinal exploration of the plexus [3] was done, whereas we chose direct inspection by laminectomy.

Murphey,[1] in 1949, presented his experiences with the radiographic demonstration of brachial plexus root avulsions by cervical myelography with iodized oil. He discovered, by roentgenography, "a pseudomeningocele or a diverticulum-like structure extending through the intervertebral foramen into the brachial plexus." In some cases, there was only distortion of the lateral extension of the nerve root sleeves. He studied seven cases in this way and verified the diagnosis in three cases by extraspinal operation. Although the myelogram cannot be relied on to reveal the degree of root damage, it can demonstrate that the lesion is intraspinal in location; furthermore, in the two cases in which we did both myelography and laminectomy, there was a disparity between the results of each. In one case (case 5), the myelogram appeared to be normal, and yet at operation the seventh motor and sensory roots were found avulsed. In another instance (case 6), the myelogram again showed no clear-cut evidence of root avulsion. At operation, not only was one (motor) root actually avulsed but two more roots were badly damaged; yet this damage could not be visualized by myelography. Unless the myelogram reveals profound root disruption, the spinal cord and its roots must be exposed surgically for accurate assessment of the damage.

SUMMARY AND CONCLUSIONS

We have demonstrated, by hemilaminectomy, the actual conditions in avulsion of the cervical nerve roots from the spinal cord. It is valuable to utilize cervical myelography and possibly hemilaminectomy in all nonpenetrating injuries of the brachial plexus in order to determine prognosis or any need for extraspinal neurorrhaphy or rehabilitative procedures.

10th and Sansom st. (7) (Dr. Jaeger).

2. Davis, L.; Martin, J., and Perrett, G.: Treatment of Injuries of the Brachial Plexus, Ann. Surg. **125**:647, 1947

3. Davis, L.: Personal communication to the authors dated May 8, 1950.

CLINICAL NOTES

LATE MENINGEAL REACTION TO ETHYL IODOPHENYLUNDECYLATE USED IN MYELOGRAPHY

REPORT OF A CASE THAT TERMINATED FATALLY

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Ethyl iodophenylundecylate (Pantopaque) has been employed extensively as a contrast medium in myelography since it was first introduced about 10 years ago. Its widespread use is evidence that severe reactions are uncommon, and in our experience ethyl iodophenylundecylate has proved to be a most satisfactory medium. We had observed only transitory and minimal reactions until the case herein reported came to our attention. This case is noteworthy for several reasons. The serious complications were so long delayed (15 months) after the use of ethyl iodophenylundecylate in myelography that it might easily have been overlooked as an etiological factor. The fatal termination was due to intracranial arachnoiditis, as a result of inadvertent introduction of the ethyl iodophenylundecylate into the basal cisternae during myelography. This emphasizes the importance of employing proper technique to avoid such an occurrence.

REPORT OF A CASE

A 33-year-old man was admitted to the hospital on Dec. 22, 1949, complaining of weakness of his legs, which he had first noticed in 1947 and which had gradually become worse until he had great difficulty in walking. He felt a tingling sensation in his legs and noted a decrease of the urinary stream. His past history was not relevant, except that he had had frequent "sinus trouble" and had had a goiter in childhood, which had been treated with iodine.

The results of the physical examination were essentially normal. Findings on neurological examination were absence of the lower abdominal and cremasteric reflexes, hyperactive patellar reflexes, and bilateral positive Babinski's reflexes. There was a slight diminution of vibration sense in the lower extremities and diminution to pinprick over the scrotum and penis. There was spastic paralysis of both lower extremities. The results of the urinalysis and routine blood studies were normal. The sedimentation rate was 4 mm., fasting blood sugar 85 mg. per 100 cc., and the nonprotein nitrogen 40 mg. per 100 cc. The blood Wassermann reaction was negative. X-ray films of the dorsolumbar spine revealed a moderate amount of marginal spurring on the anterior borders between the eighth and ninth thoracic vertebrae. There were only four vertebrae with true lumbar characteristics, and there was a spina bifida cleft at the arch of the first sacral segment. The spinal fluid pressure in the recumbent position was 210 mm. of water, and with compression of the jugular veins it rose to 430 mm. and fell promptly to 180 mm. The spinal fluid was clear and colorless, with no blood cells, a protein level of 24 mg. per 100 cc., and negative Wassermann and Lange reactions.

On Dec. 27, 1949, a myelogram was made, with the injection of 6 cc. of ethyl iodophenylundecylate in the lumbar subarachnoid space. The entire spinal canal was examined, and the appearances were considered within the limits of normal. There is no record on the chart that the ethyl iodophenylundecylate was removed. On the day after myelography the patient's temperature was elevated to a maximum of 102.2 F. He complained of some headache and of a flushed face. On the second day after the myelography the highest temperature recorded was 99.2 F, and by the third day the temperature had returned to normal.

An exploratory laminectomy was done on Jan. 10, 1950. Numerous tortuous veins were found over the surface, extending from the ninth thoracic to the first lumbar segments, of the spinal cord. It was believed that the patient had an angioma. After coagulation of one of the large veins leading to the angioma occurred, the dura mater was closed with nonabsorbable surgical sutures. The wound healed by primary intention, convalescence was uneventful, and the patient said that he had more feeling in his legs, especially for heat or cold, than he had before the operation. He was discharged from the hospital on Jan. 28, 1950, with the diagnosis of hemangioma of the spinal cord.

The patient was seen again as an outpatient on May 12, 1950, when he exhibited considerable improvement in his ability to walk but complained of occasional generalized headache. Almost a year later, April 6, 1951, he returned with a multitude of complaints referable not only to the lower extremities but to the head and upper extremities. In spite of these complaints, he had been working nine hours a day.

He was readmitted to the hospital on April 15, 1951. At that time his wife stated that his ability to walk had improved after the laminectomy 15 months previously. The recurrent headaches previously noted had increased six months before and had become even severer during the preceding three weeks. He became lethargic, vomited, was incontinent, and was occasionally confused and irrational. No definite weakness of the extremities had been noted by the patient or the family.

Physical examination again did not reveal any abnormalities, but the neurological examination showed that he was disoriented as to time and had a slight nuchal rigidity but no papilledema. The blood pressure was 140/94 mm. Hg, pulse 82 per minute, and respirations 22 per minute. The laboratory results were as follows: urine normal, hemoglobin (photoelectric oxyhemoglobin determination) 16.65 gm. per 100 cc., red blood cells 5,520,000 per cubic millimeter, white blood cells 11,100 per cubic millimeter (89% neutrophils, 2% filaments, 5% lymphocytes, 3% monocytes, and 1% eosinophils), blood sugar 140 mg. per 100 cc., and nonprotein nitrogen 30 mg. per 100 cc. A few days later, on April 17, 1951, more persistent vomiting and pronounced nuchal rigidity developed. X-ray films of the skull on April 17 showed considerable iodized oil scattered in the posterior fossa and some in the cisterns about the sella and in the subarachnoid spaces, particularly in the region of the left island of Reil. No other abnormalities were noted.

Disorientation increased, and the Babinski phenomenon became bilaterally positive. There was flexion of the upper extremities and extension of the lower extremities with spasticity. The patient became semistuporous, and an emergency ventriculogram was made. This showed an internal hydrocephalus, with dilatation of the lateral ventricles, the third ventricle, and the aqueduct and upper portion of the fourth ventricle. The spinal fluid was slightly cloudy and contained 650 mg. per 100 cc. of protein, 650 mg. per 100 cc. of chlorides, and 259 white blood cells per cubic millimeter (65% polymorphonuclear leukocytes and 35% lymphocytes). The ventricular fluid contained 180,000 red blood cells and 313 white blood cells per cubic millimeter, in the same proportion as in the spinal fluid. The ventricular fluid sugar was 81 mg. per 100 cc. and the protein 300 mg. per 100 cc. No organisms were seen on smear or culture of either the spinal or ventricular fluid. Special bacteriological studies for tubercle bacilli and fungi were negative.

A suboccipital craniotomy was performed, at which time a complete block of the lower portion of the fourth ventricle was demonstrated. When this was released, there was a forceful gush of cerebrospinal fluid. Microscopic study of the tissue removed at suboccipital craniotomy showed countless neutrophils and lesser numbers of lymphocytes in the meninges

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Dr. F. L. Kozelka of the University of Wisconsin supplied the chemical determinations.

and normal cerebellar tissue. There was temporary improvement after the suboccipital craniotomy, but death occurred suddenly two days later.

Postmortem Examination.—No significant abnormalities were found, other than in the cranium and vertebral canal. Since a granulomatous lesion had been suspected, a very careful examination of all organs was performed; however, no evidence of tuberculosis or other granulomatous lesion

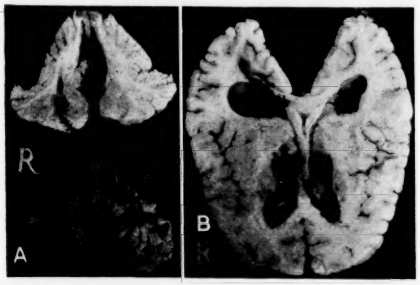

Fig. 1.—Postmortem specimens of the brain. *A*, basal surface of pons and medulla covered with a plastic exudate. *B*, internal hydrocephalus.

was found. Examination of the brain revealed flattening of all gyri, narrowing of sulci, and severe hyperemia of all superficial vessels. The basal surface of the pons and medulla was covered with a greenish-gray exudate (fig. 1*A*). When horizontal sections of the brain were made, the ventricles (fig. 1*B*) were

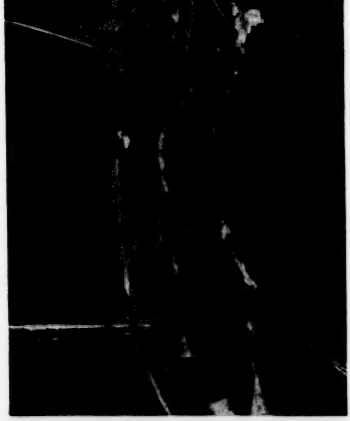

Fig. 2.—Thoracic part of spinal cord.

found to be enlarged. There was a small area of hemorrhage in the right occipital pole and another in the right hemisphere of the cerebellum, as well as some blood clots in the ventricles, no doubt the result of the surgical procedure. Examination of the spinal cord revealed tortuous, dilated blood vessels and a fibrinous exudate (fig. 2) over the lower thoracic portion of the cord. A section through the medulla (fig. 3*A*) showed it to be surrounded by cellular exudate and consisting of a fine fibrillar network containing many lymphocytes and a few plasma cells, the number of plasma cells varying in different areas. An occasional multinucleated giant cell was seen, as well as some fibroblasts. The cerebral vessels near the surface showed perivascular cuffing mainly with lymphocytes (fig. 3*B*).

In addition to the cultures taken during life, the postmortem material was cultured especially for tubercle bacilli and fungi. All bacteriological studies were negative. Smears of the exudate as well as microscopic sections were stained by the following methods: Gram, Ziehl-Neelsen, Kingsley, Mallory's phosphotungstic acid hematoxylin, and Kernohan's stain for Torula, but no organisms were found.

The diagnosis, according to the gross and microscopic picture, was that of arachnoiditis or chronic meningitis, which had produced a severe internal hydrocephalus. The history of the patient, the oil myelography, and the presence of opaque medium on the skull roentgenogram directed our attention to the possibility of a reaction to the iodine in the ethyl iodophenylundecylate. A roentgenogram of the cerebellum and spinal cord taken after death showed areas of increased density in the region of the exudate (fig. 4). For this reason an x-ray photomicrograph (fig. 5) was made of a section through the medulla, which showed areas of greatly increased density corresponding to the meningeal exudate.

Finally, to obtain definite proof of the presence of iodine, material taken from the basal surface of the medulla was examined chemically for iodine. Nearly 50 mg. of iodine per

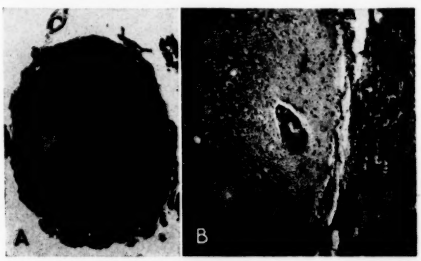

Fig. 3.—Low (*A*) and high (*B*) power view of section through medulla, showing meningitis and encephalitis.

100 gm. of the material was reported. The total iodine content of the normal body is 20 to 50 mg., of which 50% is in muscle, 20% in the thyroid, 10% in skin, and 6% in skeletal tissue.[1]

COMMENT

The evidence that ethyl iodophenylundecylate was responsible for the meningeal reaction or arachnoiditis in this patient is both negative and positive. Other etiological agents that might have caused meningitis were excluded by thorough bacteriological and microscopic studies during life as well as at autopsy. The autopsy did not reveal evidence of a possible source of primary infection. Having eliminated, as far as possible, other causative factors, we may consider the evidence that ethyl iodophenylundecylate was responsible. For two days after myelography the patient had a fever, headache, and complained of a flushed face. This immediate reaction, not too unusual, was followed by an apparent quiescent period of nine months, during which the symptoms due to the original spinal cord lesion improved. There would appear to be two possible explanations of this asymptomatic period. The meningeal reaction to the ethyl iodophenylundecylate may have been minimal and only subsequently

1. Cantarow, A., and Trumper, M.: Clinical Biochemistry, ed. 4, Philadelphia, W. B. Saunders Company, 1949, p. 216.

reactivated by some unknown factor. It would appear more probable that the meningeal reaction was low grade, was slowly progressive, and caused symptoms only when the exudate became extensive enough to produce obstruction to the free circulation of cerebrospinal fluid. The apparent latent period in this case might be

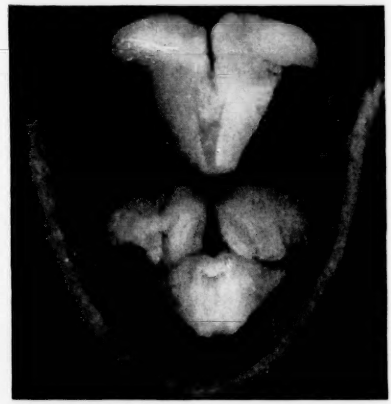

Fig. 4.—Postmortem roentgenogram of medulla, cerebellum, and spinal cord.

considered analogous to that of the pneumonitis following administration of mineral oil. There followed another period of six months of progressively severer headaches and other symptoms, which may be related to the obstructive hydrocephalus that resulted consequent to arachnoiditis. X-ray films of the skull demonstrated ethyl iodophenylundecylate in the intracranial subarachnoid spaces. If the ethyl iodophenylundecylate had not been retained in critical, or bottleneck, areas in the pathways for cerebrospinal fluid circulation, obvious symptoms might not have appeared.

There can be little doubt that the meningeal reaction demonstrated post mortem, 15 months after myelography, was caused by the continued presence of the ethyl iodophenylundecylate in the subarachnoid spaces. The distribution of the exudate corresponded to that of the ethyl iodophenylundecylate as revealed in both premortem x-ray films of the cranium and postmortem films of the brain and spinal cord. In addition, the special x-ray studies of microscopic sections demonstrated radiopacity in the subarachnoid exudate that could only result from ethyl iodophenylundecylate. As a final step in establishing the causal relationship, the chemical analysis of the affected meninges showed a tremendous increase of iodine content that can be explained only by the presence of ethyl iodophenylundecylate.

With further survey of our own cases we have not been able to prove any other instances of such severe reactions to ethyl iodophenylundecylate. We continue to employ it routinely, but with the usual safeguards of removing the medium at completion of the procedure and with special care to keep the neck extended so as to prevent its becoming lodged intracranially when the cervical region is examined. Judging by our own experience and that of others, the incidence of reaction is low. In the original experimental work Steinhausen and co-workers [2] did note cyst formation in the subarachnoid space of dogs, and occurrence of slight meningeal reaction to ethyl iodophenylundecylate was noted by Peacher and Robertson.[3] These authors stated, in referring to their case 28, that reaction may occur after an interval if ethyl iodophenylundecylate extends into the basal cisternae. Tarlov [4] observed a pronounced inflammatory reaction, whitish soft stringy exudate of the arachnoid and nerve roots of the cauda equina, at laminectomy 60 hours after 3 cc. of ethyl iodophenylundecylate had been introduced intrathecally, and he termed this reaction "Pantopaque meningitis."

The reports of severe reactions to ethyl iodophenylundecylate have been rare when one considers how extensively it is used. The experimental observations of Steinhausen and co-workers [2] indicated that it provoked

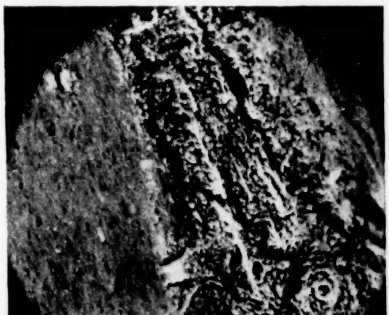

Fig. 5.—X-ray photomicrograph showing density of exudate in section of medulla.

less tissue reaction than iodized poppy seed oil. The immediate and late effects of the intrathecal injection of iodized oil were studied by Marcovich and co-workers,[5] and there was a significant case report by Bucy and Speigel in 1943.[6] An early paper on the subject was that of Wartenberg.[7] Lindblom,[8] in an article based

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3. Peacher, W. G., and Robertson, R. C. L.: Pantopaque Myelography: Results, Comparison of Contrast Media, and Spinal Fluid Reaction, J. Neurosurg. **2**: 220, 1945.

4. Tarlov, I. M.: Pantopaque Meningitis Disclosed at Operation, J. A. M. A. **129**: 1014 (Dec. 8) 1945.

5. Marcovich, A. W.; Walker, A. E., and Jessico, C. M.: The Immediate and Late Effects of the Intrathecal Injection of Iodized Oil, J. A. M. A. **116**: 2247 (May 17) 1941.

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7. Wartenberg, R.: Beitrag zur Encephalographie und Myelographie, Arch. f. Psychiat. **77**: 507, 1926.

8. Lindblom, K.: Complications of Myelography by Abrodil, Acta radiol. **28**: 69, 1947.

9. Kennedy, F.; Somberg, H. M., and Goldberg, B. R.: Arachnoiditis and Paralysis Following Spinal Anesthesia, J. A. M. A. **129**: 664 (Nov. 3) 1945.

on the use of methiodal sodium (Abrodil) for myelography in 721 cases, reported complications in more than 54. Foster Kennedy and co-workers [9] reviewed the literature dealing with sequelae of spinal anesthesia and reported three cases of arachnoiditis in the spinal region. Other reports of meningeal reaction after spinal anesthesia and the introduction of other agents such as antibiotics intrathecally have appeared from time to time.[10]

Sensitivity or tolerance of the subarachnoid space to these various substances is a matter of relativity. On this score ethyl iodophenylundecylate is no doubt safe, and its margin of safety can be increased by its removal on completion of myelography. The possibility that some reactions may be due to variation in the composition of the ethyl iodophenylundecylate that is supplied has been suggested. Other possible factors such as the introduction of impurities in the syringe or the presence of an idiosyncrasy to iodine must be considered. We have no observations that bear specifically on these problems, but in this case the evidence indicates that the ethyl iodophenylundecylate itself must have been the irritant.

The reaction observed in this case does emphasize the hazard of ethyl iodophenylundecylate being allowed inadvertently to enter the intracranial space. The disclosure of droplets of oil intracranially after myelography is not too uncommon. Often one cannot ascribe any signs or symptoms to their presence, but again the clinical picture may be clouded by the original condition for which the patient was subjected to this examination. The localization of the oil and its amount may be important factors, as was clearly true in this patient in whom an obstructive hydrocephalus was produced due to exudative arachnoiditis in critical areas. Sensitivity to ethyl iodophenylundecylate may be of importance, as may be any underlying disease that contributes to the intensity of the reaction.

That this complication of intracranial extension of the contrast medium can be prevented in the majority of instances by proper technique is well known. Judging by our experience, it still needs to be reemphasized. The indiscriminate use of any method of examination such as myelography by untrained personnel can lead to unnecessary complications. In discussing the injudicious use of myelography, Oldberg [11] made a plea for respect for the tissues of the central nervous system. We would add to this a plea for meticulous attention to details of technique in performing a valuable diagnostic technique such as myelography.

SUMMARY AND CONCLUSIONS

A patient died 15 months after myelography was done with ethyl iodophenylundecylate (Pantopaque), because of an exudative and adhesive arachnoiditis producing an obstruction of the fourth ventricle and basal cisternae. That this meningeal reaction was due to ethyl iodophenylundecylate was indicated by x-ray studies both ante mortem and post mortem, by the chemical determination of iodine in the exudate, and by the microscopic examination. Although such a severe reaction to intracranially administered ethyl iodophenylundecylate is considered very unusual, it would appear that late reactions of milder degree may produce symptoms, the nature of which is overlooked. We would reemphasize the importance of careful attention to details of technique such as removal of the ethyl iodophenylundecylate after myelography and special measures to avoid its introduction into the intracranial subarachnoid space.

1300 University Ave. (Dr. Erickson).

10. Erickson, T. C.; Masten, M. G., and Suckle, H. M.: Complications of Intrathecal Use of Penicillin, J. A. M. A. **132**: 561 (Nov. 9) 1946.
11. Oldberg, E.: A Plea for Respect for the Tissues of the Central Nervous System, Surg., Gynec. & Obst. **70**: 724, 1940.

MYXEDEMA HEART

ADVANCED FAILURE WITH RAPID RECOVERY

Russell F. Weyher, M.D., Detroit

Recent spectacular surgical therapy in certain cases of heart failure due to congenital anomalies and rheumatic valvular deformities seems to have overshadowed the fact that medical treatment also can produce dramatic improvement in cardiac decompensation from some types of heart disease. Among these, cardiac impairment resulting from thyroid deficiency can apparently be completely corrected. This is not true of the great majority of cases of heart disease, whether medical, surgical, or combined methods of treatment are used. The fact that myxedema in humans can cause diffuse cardiac enlargement, sluggish contractions, and electrocardiographic abnormalities that disappear only after the myxedema is controlled was recorded by Zondek in 1918.[1] Fahr's investigations in this country in 1925 [2] confirmed Zondek's observations and showed that cardiac volume in cases of severe myxedema may be increased 100%. Lerman, Clark, and Means [3] in 1933 showed reduction in the transverse cardiac diameters in 37 out of 48 cases after thyroid therapy.

The following authors have presented cases with serial chest roentgenograms: Schnitzer and Gutmann,[4] Master and Stricker,[5] Schoene and Pollock,[6] Kern and co-workers,[7] Allison,[8] and Ellis and co-workers.[9] None of the cardiac silhouettes in these cases before treatment or before death appear to be as enlarged as that in the case herein reported, although in Schnitzer and Gutmann's case of myxedematous pericardial effusion the cardiac silhouette was nearly as huge in proportion to the chest size.

Presented at the Clinical Conference, Providence Hospital, Detroit, Dec. 21, 1952.

1. Zondek, H.: Das Myxödemherz, München. med. Wchnschr. **65**: 1180-1182 (Oct. 22) 1918.
2. Fahr, G.: Myxedema Heart, J. A. M. A. **84**: 345-349 (Jan. 31) 1925.
3. Lerman, J.; Clark, R. J., and Means, J. H.: Heart in Myxedema: Electrocardiograms and Roentgen-Ray Measurements Before and After Therapy, Ann. Int. Med. **6**: 1251-1271 (April) 1933.
4. Schnitzer, R., and Gutmann, D.: Myxoedema with Pericardial Effusion, Brit. Heart. J. **8**: 25-28 (Jan.) 1946.
5. Master, A. M., and Stricker, J.: Myxedema Heart: Report of Case, Ann. Int. Med. **15**: 123-127 (July) 1941.
6. Schoene, R. H., and Pollock, A. L.: Myxedema Heart with Cardiac Failure, Ohio State M. J. **44**: 718-721 (July) 1948.
7. Kern, R. A.; Soloff, L. A.; Snape, W. J., and Bello, C. T.: Pericardial Effusion: Constant, Early and Major Factor in Cardiac Syndrome of Hypothyroidism (Myxedema Heart), Am. J. M. Sc. **217**: 609-618 (June) 1949.
8. Allison, F. G.: Myxedema Heart, Atrial Septal Defect and Hypertension, and Congestive Heart Failure, Am. Heart J. **41**: 620-623 (April) 1951.
9. Ellis, L. B., and others: Effect of Myxedema on Cardiovascular System, Am. Heart J. **43**: 341-356 (March) 1952.

Many patients with cardiac myxedema show varying degrees of pericardial effusion. In the case in this report, the question of effusion in the pericardial sac will doubtlessly occur when the cardiac roentgenographic configuration is studied; however, the patient's collapse after the withdrawal of ascitic fluid made me hesitate to insert a needle through the pericardium. Subsequent progress proved this to be therapeutically unnecessary.

Fig. 1.—Roentgenogram showing cardiac enlargement, particularly on the left, little chronic passive congestion, and gross free fluid.

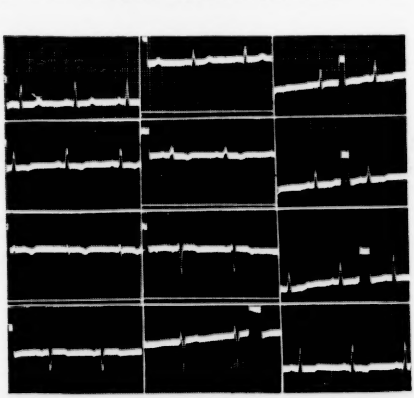

Fig. 2.—Electrocardiographic tracings on Oct. 15, 1951.

Tung [10] has pointed out that in massive pericardial effusion the Q-T interval is normal, whereas White states that in myocardial involvement the Q-T interval is prolonged. In this case, when the patient was first admitted the Q-T interval was 0.38 second, which is within the outer limits of normal for women with this pulse rate. On recovery, however, the electrical systole became considerably shortened (from 0.38 second to 0.28 second) when digitalis was given. There was no fever, no tachycardia, nor any pericardial friction rub heard during this patient's stay in the hospital. Unfortunately, determination of sedimentation rates was never made. Means described the heart in myxedema as characterized by flabby musculature and dilatation of all four chambers, with a reduced minute volume. Advanced congestive heart failure rarely occurs, because with reduction in the heart's capacity for work a parallel reduction occurs in the amount of work it is called on to perform.

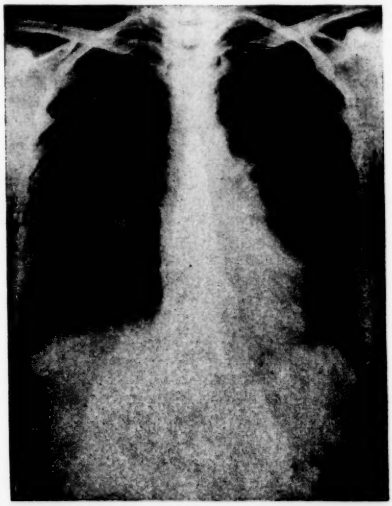

Fig. 3.—Teleroentgenogram taken Sept. 11, 1952, showing normal thorax and cardiac silhouette except for an accentuated pulmonary conus.

In LaDue's case,[11] a similarity was found between myocardial myxedema and beriberi heart. Although he observed a response to thiamine and vitamin B complex during 33 days of this therapy, a rapid improvement ensued with subsequent thyroid administration. However, this does not preclude the possibility that myocardial thiamine utilization may be impaired by thyroid hypofunction, according to Cluxton and co-workers.[12] In this case it was felt that at the start of therapy reduction in intra-abdominal pressure, digitalization, and diuresis were necessary. Next in order, thiamine and thyroid were administered to aid in metabolic recovery of the damaged myocardium. Ten months later it was considered safe to remove a possible focal infection in the calculus in the gallbladder, which may have caused hepatic impairment. On reflection, although the thyroid

10. Tung, C. L.: Duration of Electrical Systole (Q-T Interval) in Cases of Massive Pericardial Effusion, Am. Heart J. **22**: 35 (July) 1941.

11. LaDue, J. S.: Myxedema Heart: Pathological and Therapeutic Study, Ann. Int. Med. **18**: 332-344 (March) 1943.

12. Cluxton, H. E., Jr.; Bennett, W. A., and Kepler, E. J.: Anterior Pituitary Insufficiency (Panhypopituitarism—Simmonds' Disease), Pituitary Myxedema and Congestive Heart Failure (Myxedema Heart): Report of Case and Findings at Necropsy, Ann. Int. Med. **29**: 732-745 (Oct.) 1948.

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dosage administered and its rapid increase seemed large, the possible strain on the coronary arteries was felt to be not too hazardous.

REPORT OF A CASE

A 47-year-old white woman was first examined in Providence Hospital on Oct. 9, 1951, having been referred to me by Dr. James Morley, whom she had consulted intermittently the previous summer for shortness of breath and increased size of her abdomen. For the previous two months her waist had felt very tense and she had to lie on three pillows to sleep at night. There was increasing frequency of urination, swelling of the ankles and labia majora on standing or walking, but no pain nor soreness anywhere, including the pericardium.

Her family history showed no evidence of goiter nor other familial diseases. Her husband's health was good, and she had one living child. In 1944 a hysterectomy was performed for "vaginal bleeding." Later that year a thyroidectomy was done for "hypertension and shortness of breath," and this was followed that autumn by an appendectomy. For three years she had had flatulence, "bloating," and indigestion, especially after eating rich or fatty food.

When observed the patient, a small white woman, lay flat in bed, except for two pillows that raised her head. She was listless, apathetic, and slow to answer questions. There was no apparent discomfort except when she was raised to a sitting position. She then became cyanotic, began to gasp, and showed much distress. The neck veins showed marked distention and increased pulsation, both aggravated when she assumed an erect posture. The pulse rate was 58 beats per minute, the temperature 97.4 F, and the respirations 16 per minute. Her color was sallow, with conjunctival pallor and paleness of the cheeks and tongue. The skin was very dry, rough, and especially thickened over the elbows and knees. The extremities felt cold. Scars were present transversely over the anterior neck, vertically over the midabdomen, and in the right lower rectus region. The cervical lymph nodes were palpable, and a small soft mass was present in the right breast. (This disappeared some months later.) The chest was symmetrical and flat to percussion except in the apices, but diminished excursion was present on the left side. Fine crepital rales were heard throughout the lower two-thirds of both lungs posteriorly. The apex impulse was not felt, and heart sounds were almost inaudible. The abdomen was enormous and tense, and shifting dulness in both flanks was very obvious. No intra-abdominal masses could be palpated. Edema was present in both labia majora, the lower sacrum, thighs, legs, and ankles. Portable x-ray studies the next morning showed gross cardiac enlargement, mainly to the left, with surprisingly little chronic passive congestion and gross free fluid obscuring all details within the abdomen (fig. 1).

The anatomic diagnoses were advanced heart failure with hypertension and massive ascites, with pulmonary congestion and generalized dependent edema. Etiologically the following conditions were considered: (1) advanced rheumatic heart disease, (2) cardiac cirrhosis, (3) intra-abdominal neoplasm, (4) myocardial failure following a coronary occlusion, (5) hypertensive cardiovascular renal insufficiency, (6) heart failure in beriberi, and (7) heart failure in myxedema.

Therapy.—On Oct. 11, the patient was given digitalis and then ammonium chloride, 45 gm. daily, and a sodium-restricted diet. On Oct. 12, Dr. Morley removed 4,500 cc. of straw-colored ascitic fluid through an abdominal trocar. A cell block of the settled fluid showed a nonspecific inflammatory reaction. Immediately after the paracentesis, the patient collapsed and went into shock. The pulse became imperceptible, she became an ashen color, and the blood pressure dropped to 60/20 mm. Hg. Six minims of methamphetamine hydrochloride (Drinalfa) and 250 cc. of blood plasma were administered intravenously, and the patient then recovered. On Oct. 13, 75 mg. of thiamine were given intramuscularly with 0.25 mg. of digoxin daily.

Course.—An electrocardiogram on Oct. 15 showed a sinus rhythm, a rate of 68, with a PR interval of 0.16 second in duration and a QRS interval of 0.06 second. There were inverted T waves in leads 2, 3, and AVF, with diphasic T waves in leads V4, V5, and V6 (fig. 2). The relatively slow pulse (58 per minute on admission) and subnormal temperatures persisted during the patient's entire hospital stay of 30 days. During the last week, however, the daily temperatures tended to rise toward the "normal" chart line.

After the abdominal paracentesis, diuresis occurred and there was some reduction in the edema. The patient remained listless, however, and showed a lack of interest in her surroundings and in her condition. On Oct. 13 the blood pressure was 108/72 mm. Hg. On Oct. 19, 1.5 cc. of meralluride, a mercurial diuretic, was administered. This was repeated two days later and then again every third day. Very little change in the edema occurred. On Oct. 23, 30 mg. of desiccated thyroid extract was administered daily and the dose increased every other day, until by Nov. 1, 90 mg. were being given. At this time the patient's condition rapidly changed. She became alert and vivacious, and practically all of her visible edema disappeared.

On Oct. 24, permission to get out of bed was granted. The blood pressure was 128/80 mm. Hg, the pulse rate 64, and the patient's abdomen was soft, with the liver edge 5 fingerbreadths below the right costal margin. The labia, thighs, and legs showed no edema.

Multiple chest teleroentgenograms taken Nov. 5 were interpreted as follows: "The bilateral passive pulmonary congestion present Oct. 10 has cleared. There is improvement in the general cardiac enlargement. Evidence of left auricular enlargement is still present."

Serial Laboratory Studies

	1951			1952	
	Oct. 10	Oct. 31	Nov. 8	Sept. 9	Dec. 9
Basal metabolism, %.....	...	−14	14	22+	10+
Blood cholesterol, mg. per 100 cc.	200	255	...	240	225
Hemoglobin, gm. per 100 cc.....	16	12	...	13	14
Erythrocytes, millions.....	4.9	4.8	...	4.1	4.2
Leukocytes	4,750	5,400	...	5,600	6,100
Cephalin flocculation, 48 hr.....	3+	...	2+	...	Normal
Sulfobromophthalein (Bromsulphalein) retention, % at 1 hr.....	16	...	...	...	8
Thymol turbidity, units per 100 cc.....	...	6	...	...	...
Icterus index.....	...	...	6.2	...	4.1

On Nov. 7, 1951, she was able to sleep horizontally and to walk about in the room and to the toilet without experiencing dyspnea. The next day, the cardiac sounds were regular, with no audible murmurs. The apex beat was in the anterior axillary line, the liver edge was 4 fingerbreadths below the right costal margin when the patient was in the sitting position, and there was no visible edema. She was discharged home with a regimen of 90 mg. of thyroid extract daily and a capsule of a multiple vitamin formula. On Sept. 11, 1952, about 10 months later, she was readmitted to the surgical service. The blood pressure was 140/70 mm. Hg with a normal pulse rate. A teleroentgenogram showed the thorax and cardiac silhouette to be normal except for an accentuated pulmonary conus (fig. 3).

The next morning cholecystectomy was performed by Dr. Frank Porretta, who found a thickened gallbladder containing five faceted calculi with multiple pericholecystic adhesions. When the abdomen was opened, the liver appeared normal, with a sharp axe-like edge. The patient was discharged on the eighth day with an uneventful convalescence.

During her hospital stay six normal routine urinalyses were performed. On Oct. 10, 1951, the fasting nonprotein nitrogen was 37 mg. per 100 cc., and one month later the fasting blood glucose was 103 mg. Initially, the total leukocyte count tended to be slightly low. Fasting blood serum cholesterol estimations were not high in this case, but the values rose somewhat as compensation was established and thyroid extract was administered. This rise may be due to cholesterol mobilization and has been observed in other cases of thyroid deficiency.

On March 12, 1953, the patient was reexamined. She had no complaints. Results of the physical examination were essentially negative, including that of the heart. She was tak-

ing 90 mg. of thyroid extract daily, but no other medication. A teleroentgenogram of the chest showed no change from that of September, 1952. The electrocardiogram showed normal graphs, i. e., the previous T wave inversions had become normally upright.

SUMMARY

A case of heart failure associated with myxedema secondary to thyroidectomy and uncomplicated by coronary disease, valvular involvement, angina, or prolonged hypertension, with extreme enlargement of the cardiac silhouette, is presented. In spite of some opinions that such hearts will not respond to conventional therapy before thyroid is given, this patient showed excellent response to such a regimen. Parenterally administered thiamine injections, together with thyroid extract, may have aided in the patient's rapid recovery. Although the heart is clinically and electrocardiographically normal at present, a teleroentgenogram demonstrates persistent enlargement of the pulmonary conus. This sequel has occurred in other cases.

2415 W. Grand Blvd.

EXFOLIATIVE DERMATITIS FOLLOWING INGESTION OF PHENYLBUTAZONE (BUTAZOLIDIN)

Harold C. Fishman, M.D., Beverly Hills, Calif.
and
Josephus Reynolds, M.D., Los Angeles

Phenylbutazone (Butazolidin) is the pyrazole derivative 4-butyl-1,2-diphenyl-3,5-pyrazolidinedione sodium. It is being used extensively in the treatment of rheumatoid arthritis, ankylosing spondylitis, arthritis with psoriasis, degenerative joint disease, acute peritendinitis, and gout. Over 10% of patients have been reported unable to tolerate the drug. Reported toxic manifestations include morbilliform rash, edema, nausea, activation of peptic ulcer, vertigo, stomatitis, insomnia, nervousness, thrombocytopenia, and agranulocytosis. It has been said [1] that a rash occurs in only 3 to 4% of patients, that it "subsides rapidly on discontinuance of medication," and that desensitization with minute doses of phenylbutazone has "made possible continuation of therapy in some of those who show rashes."

As we were unable to find any reference in the literature to exfoliative dermatitis attributable to the drug and as we feel that our case indicates that continued use of the drug may be definitely dangerous and absolutely contraindicated after a rash has been observed, this instance of exfoliative dermatitis following the ingestion of phenylbutazone seems to merit prompt reporting.

REPORT OF A CASE

A 60-year-old white housewife was seen by an orthopedist for treatment of a whiplash injury of the neck sustained in an automobile accident on Oct. 14, 1952. She began to take phenylbutazone on Oct. 17, 1952. She took 4 tablets (200 mg. each) daily and stopped after taking 29 tablets over a period of about one week. The patient noticed a slight rash after she took the 16th tablet but did not notify her physician until she had taken 29 tablets. He advised immediate suspension of the medication and referred her to an internist (J. R.), who first saw her on Nov. 6, 1952.

Examination revealed fever, puffiness of the face, burning sensation on the skin, and a morbilliform rash on the face and trunk, but practically none on the extremities. On Nov. 8, 1952, she felt "hot and puffy," vomited, and had frequent bowel movements. The rash was now generalized, confluent, and morbilliform. Her hands and face were swollen, and her fingers were stiff. Her temperature was 102 F, and she was drowsy. Her appearance suggested a serum sickness type of reaction. Cortisone acetate was prescribed in initial dosage of 200 mg. every 24 hours, and she was also given diphenhydramine (Benadryl) hydrochloride. On Nov. 10, 1952, the skin of the hands and fingers was tight, and the rash had a purplish color. The palms and soles began to itch. Cortisone dosage was increased to 400 mg. per day, but the woman's temperature remained at 102 F. On Nov. 12, 1952, itching continued, but the swelling subsided somewhat. There was generalized lymphadenopathy with considerable enlargement of axillary, epitrochlear, and inguinal lymph nodes. The liver was felt 2 in. (5.08 cm.) below the right costal margin. Therapy with cortisone (100 mg. per day) and diphenhydramine was continued. The rash began to subside, and the patient felt considerably better.

Blood Findings in Woman with Exfoliative Dermatitis Following Ingestion of Phenylbutazone

	11/12/52	11/18/52	11/24/52	12/15/52	12/22/52	12/28/52	1/6/53
Erythrocytes, millions	4.26	4.51	4.30	3.50	4.28	4.12	3.95
Hemoglobin Gm./100 cc.	12.9	13.3	12.6	12.2	12.0	12.0	10.3
%	81	83	79	..	78	78	66
Color index	0.96	0.92	0.91	0.92	0.91	0.95	0.84
Leukocytes	25,800	16,200	11,250	11,500	9,000	11,300	9,700
Polymorphonuclears							
Total, %	14	37	50	66	58	49	70
Stab forms, %	3	2	4	9	11	8	28
Segmented, %	11	35	46	57	47	41	42
Eosinophils, %	0	0	0	1	0	1	0
Basophils, %	1	0	1	0	0	1	0
Monocytes, %	15	8	9	3	4	3	6
Monocytoid cells, %	69	0	5	..	..	..	..
Lymphocytes, %	10	55	35	30	38	46	26
Metamyelocytes	..	..	..	..	..	..	1
Heterophil agglutination	Negative						
Serum albumin, gm./100 cc.	4.5	..	..	..	..	..	..
Serum globulin, gm./100 cc.	1.3	..	..	..	..	..	..
Total proteins, gm./100 cc.	5.8	..	..	..	..	..	..
Sedimentation rate, mm./hr.	..	..	..	..	10	12	46
Packed cell volume, %	..	..	..	..	41	38	37

A relapse occurred on Nov. 18, 1952. The woman's face again became swollen to twice its normal size. There was a recurrence of the eruption, which was papular and confluent with marked itching. There was no adenopathy, hepatomegaly, or splenomegaly. Inasmuch as the rash was becoming progressively severer and more widespread, a dermatologist (H. C. F.) was consulted on Nov. 24, 1952.

The patient was then treated with fractional x-ray therapy, potassium permanganate 1:5,000 baths, and methapyrilene hydrochloride (Histadyl) orally and intramuscularly. After three weeks of this treatment, the rash was still getting worse. The patient was then admitted to the hospital, and hydro-

It is of interest to note that the initial blood studies (Nov. 12, 1952), made when the patient presented a serum sickness type of reaction, revealed a preponderance of monocytic cells. Subsequent blood tests showed a gradual return to normal. At no time was there any evidence of eosinophilia or granulocytopenia. Pertinent blood findings appear in the table. Examination of the bone marrow was made on Nov. 24, 1952, with the following findings: Smears and sections of aspirated sternal bone marrow revealed a normal dispersion of erythroid and myeloid elements. Platelets and megakaryocytes were abundant. No cells foreign to marrow were observed.

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1. Kuzell, W. C., and Schaffarzick, P. W.: Phenylbutazone (Butazolidin®), Bull. Rheumat. Dis. **3**: 23 (Nov.) 1952.

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cortisone acetate was administered orally in doses of 40 mg. four times a day. The potassium permanganate baths were continued. Within a few days, the dermatitis began to subside, and slow improvement continued daily and without further exacerbation. The patient was discharged from the hospital on the 27th day feeling better but very weak, with residual generalized erythroderma and swelling of the hands and feet. The dose of hydrocortisone acetate was reduced to 60 mg. daily. At home, the patient was given hydrocortisone acetate for the next four months, and the dosage was gradually reduced. By that time her skin had just returned to normal, but the hair of the scalp remained very sparse.

When first seen by the dermatologist, after the rash had been present for about two months, the skin showed a diffuse erythema, with mild exfoliation and thickening involving the entire body, but most extensively on the chest, abdomen, anterior upper and lower arms, anterior thighs, and dorsum of the hands and wrists. There were also reddish to purplish, discrete, flat, large papules scattered throughout. After three weeks, at the time of admission to the hospital, the rash had become much worse and showed a very marked exfoliation with considerable thickening, edema, and weeping in many of the crease areas.

After oral administration of hydrocortisone acetate, the exfoliative dermatitis began to clear in a few days and was practically gone in one month. It required four more months for the remaining erythroderma to subside and for the skin to return to normal. A biopsy of the skin from the dorsum of the left hand on Nov. 24, 1952, showed hyperkeratosis, marked edema of the upper cutis, and marked infiltration with small, round cells of the mid-cutis, especially perivascularly.

SUMMARY AND CONCLUSIONS

A case of exfoliative dermatitis following the ingestion of 29 200 mg. tablets of phenylbutazone (Butazolidin) in a 60-year-old white housewife is reported in detail. This patient was acutely ill, and for a while it seemed that she might not live. The total duration of her illness was seven months, from onset to recovery. We believe this is the first such case reported.

It is felt that phenylbutazone is a potentially dangerous drug that should not be prescribed indiscriminately or without close supervision and observation of the patient. Before advising its use, the physician should give very careful consideration to the disability, discomfort, and danger inherent in the disease being treated, in comparison with the possible hazards of the medication. Our experience indicates that, even after cessation of phenylbutazone therapy, a rash can continue to progress and can develop into an almost fatal exfoliative dermatitis. Such an eventuality casts grave doubts on the validity of published statements that the rash subsides rapidly after discontinuance of medication and that it may be safe to continue therapy after desensitization by minute doses.

105 N. San Vicente Blvd. (Dr. Fishman).

Gastrointestinal Disorders and Flying.—It is logical that flying should be interdicted for patients having lesions of the gastrointestinal tract that might perforate under the stress of rapidly expanding gas. This applies to patients with active peptic ulcer. Patients with quiescent ulcers may travel in pressurized aircraft. They should be given carminatives for flatulence, and hyoscine to prevent air sickness. Patients with diverticulosis should not fly. Entrapment of air in a diverticulum is quite painful, and perforation is possible. . . . Diaphragmatic hernia is another contraindication to flying. A patient with a colostomy should stay on the ground. While there he may have perfect control over the colostomy, at higher altitudes expansion of intestinal gases may be attended by disagreeable and embarrassing results.—S. Kreinin, M.D., Which Patients May Fly, *GP (Journal American Academy General Practice)*, August, 1953.

COUNCIL ON FOODS AND NUTRITION

The following article was prepared at the request of the Council on Foods and Nutrition.

JAMES R. WILSON, M.D., *Secretary.*

TRACE ELEMENTS IN BRUCELLOSIS

David T. Berman, D.V.M., Ph.D.
Madison, Wis.

Assertions that trace elements have a prophylactic or therapeutic effect on Brucella infections in man and lower animals have been circulated widely. These claims have been based on uncontrolled observations. The results of a controlled experiment on cattle indicate that the addition of a trace element supplement to a practical dairy ration had neither a prophylactic nor a therapeutic effect on the course of experimentally produced brucellosis. Animals fed the unsupplemented ration and vaccinated with Br. abortus strain 19 were significantly more resistant to the induced infection than the supplement-fed cattle. The control ration apparently furnished adequate amounts of the trace elements, since there were no differences in the concentrations of these elements in the blood or livers of animals fed the basal or supplemented diet. Significant differences were not observed in the concentrations of trace elements in the tissues of animals that resisted the infection as compared with those that had been susceptible. The available evidence does not support the claims advanced for the prophylactic or therapeutic efficacy of trace elements in brucellosis.

Claims that brucellosis is fundamentally a syndrome of trace element deficiency—or that such a deficiency occurs frequently, both in domestic animals and human beings, and is a major factor in the susceptibility of the host to invasion by Brucella—have been circulated widely.[1] These claims apparently stem from a report[2] that spectroscopic analysis of the blood and pituitary glands of cattle with Brucella agglutinins revealed significantly lower concentrations of manganese, copper, and cobalt than those observed in the tissues of normal animals. So-called practical feeding experiments are claimed to have shown that supplementation of the ration of infected cattle with manganese, copper, and cobalt resulted in the loss of specific agglutinins.[3] On the basis of such assertions trace elements claimed to be "Bang's disease cures" have been sold to many livestock owners. Also, trace elements have been said to have therapeutic efficacy in human brucellosis.[4]

Adequate controls were not included in the trials cited in support of the efficacy of trace elements. It should be emphasized that absence of the cardinal sign of abortion from a herd of cattle cannot be construed as evidence of freedom of infection. Studies of the natural course of the disease[5] indicate that infected animals rarely abort more than once after initial exposure but that most remain carriers of the infection. In the normal course of events storms of abortion in infected herds occur only when the population of susceptible animals reaches a sufficient concentration. Between these dramatic episodes infection is maintained in carrier animals, most of which reproduce quite normally. The use of almost any material in a herd of cattle after an abortion storm will appear, to the uncritical observer, to have effected a change in the clinical picture in the herd. A variety of products have been sold to livestock men as therapeutic agents for brucellosis of cattle. The results of controlled experimental studies have shown some of the most widely advertised of these to be without merit.[6] It appears that the reputed success attending their use in the field was attributable to the natural tendency

From the Department of Veterinary Science, College of Agriculture, University of Wisconsin (Paper N.S.123).

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Because of space limitations the bibliographic references have been omitted from THE JOURNAL and will appear in the author's reprints.

of the abortion phase of the disease to be self-limiting in individuals and to occur in cycles in herds.

Observations of serologic reversals in cattle, such as those cited above, following the use of supposed therapeutic agents must also be examined critically unless the trials include adequate numbers of control animals not given the material. Spontaneous serologic reversals occur in cattle over varying periods of time after initial exposure. Beach and co-workers [7] found that 14 of 37 seropositive infected cattle in one experimental herd lost their agglutinins over a two year period after the initial exposure. No treatment was employed. Winner [8] has observed an incidence of serologic reversals of about 17% in several thousand animals tested in an official eradication program. Similar spontaneous recoveries, with serologic reversals, have been observed by Spink [9] in 10 of 65 untreated cases of human brucellosis.

The adequacy of the diagnostic criteria employed is a fundamental consideration, which must be made in evaluating the reports of antibrucellar activity of trace elements (or any other chemotherapeutic material) in human beings. This is particularly true in chronic brucellosis.[10] Diagnostic criteria for human brucellosis have been discussed in two recent reviews.[11]

Although evidence has been presented that indicates that the nutritional state of the host may exert a profound effect on its response to a variety of infectious agents, most of these effects are demonstrable only by the use of restricted rations.[12] In a study by Hart and co-workers [13] it was found that "A high plane of nutrition, involving the feeding of alfalfa hay, minerals, cod liver oil and iodized salt had no effect in developing a resistance in cattle to Brucella abortus, as compared with a ration of lower protein content supplemented with common salt but no other minerals." The trace elements were not specifically considered in this study.

Frank states of copper or cobalt deficiencies have been recognized in cattle and sheep under natural conditions in areas where these elements are present in the soil in amounts insufficient to supply the requirements of the animals.[14] Quantitative requirements of manganese for farm animals have been established only in the case of poultry. The needs for swine are certainly much lower than for chicks, but published data on their actual requirements are not in agreement. Although little is known about the requirements of manganese for cattle, its content in the feeds that commonly make up their rations appears to be high enough to meet their probable needs.[14] The occurrence of deficiencies of these trace elements in the normal human diet is highly improbable.[15]

Evidence has not been furnished of increased prevalence of bovine brucellosis in areas where the soil is deficient in trace elements. Nor has the addition of manganese to fertilizer mixtures or to the ration influenced the prevalence of the disease in the manganese deficient areas in Florida. Davis [16] has investigated 30 infected cattle herds in that state. Of these, 27 had been fed manganese as a regular constituent of a mineral mixture and were on farms where manganese was included in the fertilizer applied to pastures. In addition, a brucellosis outbreak occurred at the Everglades Experiment Station among cattle being fed manganese and on pastures heavily fertilized with this element.

A controlled study of the effects of trace elements on bovine brucellosis has been conducted at the University of Wisconsin [17] as a part of a large-scale investigation on this disease.[18] The trial involved 5 experimental groups of approximately 20 cows per group. All groups were maintained throughout the experimental period on a practical dairy ration composed of either mixed legume hay or legume hay with corn silage, together with a grain mixture, with the following composition: Whole oats, 19%; corn or wheat, 48%; bran, 17.5%; soybean oil meal, 15%; and iodized salt, 0.5%. One group of 19 unvaccinated animals received a trace element supplement, one part of which was mixed with 99 parts of the grain mixture. The proportions of the mineral mixture were: Techmangam (product of Tennessee Eastman Corp., containing 65 to 67% $MnSO_4$), 100: $CuSO_4$, 1.0; $CoSO_4$, 1.5; $ZnSO_4$, 0.5; and $MgSO_4$, 3.0. The supplemented grain mixture was fed to the animals of the group during a 4½ month period before experimental exposure to Br. abortus and for a period of 11 to 18 months after that exposure. The levels fed furnished a minimal daily intake of one ounce of the trace element mixture per cow.

The animals in all groups were exposed by instillation of 12×10^6 organisms of a highly pathogenic culture of Br. abortus (strain 2308) into the conjunctival sac. Sixteen of the 19 animals fed trace elements, and 18 of the 22 unvaccinated, unsupplemented control cows were pregnant at the time of exposure. Careful bacteriological and serologic studies were made of all animals. The experimental design permitted comparison of the response to infection between groups of unvaccinated animals with or without supplemental trace elements in the ration and further comparison with the response of vaccinated animals that had not received the trace element supplementation. The results are summarized in table 1.

Response to Brucella of Trace Element-Fed Cattle, Control Cattle, and Unsupplemented Vaccinated Cattle

Group of Cattle	Abnormal Parturitions		Normal Parturitions		Nonpregnant		Seropositive Animals*	Total Animals per Group
	Infected Cattle	Non-infected Cattle	Infected Cattle	Non-infected Cattle	Infected	Non-infected		
Trace element-fed	12	0	1	3	1	2	17	19
Controls	14	1	3	0	2	2	22	22
Vaccinated before maturity	3	1	0	10	0	0	8	14

* Animals were classified as seropositive if at any time during the postexposure period the agglutinin titer was 1:100 or higher.

Of the 16 pregnant, supplement-fed animals, 12 aborted, as did 15 of the 18 pregnant control cows, and 4 of the 14 vaccinated cows. Br. abortus was isolated from 14 of the 19 trace element-fed cattle, from 19 of the 22 controls, and from 3 of the 14 vaccinated cows. It is clear that there was no difference between the group fed trace elements and the unvaccinated controls in their resistance to induced infection with Br. abortus. On the other hand, vaccinated animals that had not received the trace element supplemented ration were significantly more resistant to the same experimental infection than the animals of either of the unvaccinated groups.

Animals from the various groups were maintained on the test rations for periods of 11 to 18 months after the experimental exposure to determine whether differences in the rate of spontaneous recovery from infection might become apparent. Serum agglutination tests and cultures of the milk were made at regular intervals during this period. Differences were not apparent between the trace element-fed group and the unvaccinated controls in the number of times Br. abortus was isolated from the milk or in the number of serologic reversals.

Analytical studies were also carried out by the Wisconsin group [19] to determine the concentrations of trace elements in the blood and livers of animals in the various experimental groups of animals. Blood samples were obtained before and after the experimental exposure. Liver samples were taken from many of the animals at necropsy following exposure. The authors concluded that the unsupplemented ration supplied abundant amounts of copper, zinc, cobalt, and manganese, since significant differences were not observed in the concentrations of these elements in the blood or livers of animals fed the basal ration or those fed the trace element supplemented diet. It appears that animals that receive adequate supplies of the trace elements are unable to store in the liver additional amounts that might be furnished by dietary

supplements. Comparisons also were made of the concentrations of trace elements in the livers of animals that had resisted the infection as compared with those that had been susceptible. Significant differences were not observed.

The results of this controlled study indicate that the supplementation of a practical dairy ration with trace elements, in proportions recommended by the supporters of the efficacy of such products, has neither a prophylactic nor a therapeutic effect on the course of experimentally produced bovine brucellosis. The use of such products cannot be expected to aid in the control of animal brucellosis. Indeed, their use, to the exclusion of proved effective methods of control based on sanitation and vaccination, may result in seriously undermining basic control and eradication programs.

Since cases of human brucellosis occur only as a result of direct or indirect contact with the animal reservoirs of the disease, the problem of control of the infection in human beings depends on control and eradication of the disease in the livestock population. Certainly the results of experiments on the natural host of Br. abortus do not support the claims advanced for the therapeutic efficacy of trace elements in infections of human beings.

ACCEPTED FOODS

The following products have been accepted as conforming to the rules of the Council.

JAMES R. WILSON, M.D., *Secretary.*

Matchless Brand Dietetic Pack Golden Sweet Corn (Cream Style).

Ingredients: Golden cross variety corn, packed in water without any added sugar or salt.

Analysis (submitted by distributor).—Total solids 22.7%, moisture 77.3%, fat (ether extract) 1.06%, protein (N × 6.25) 2.56%, crude fiber 0.32%, available carbohydrate 17.88%, sodium 3.20 mg./100 gm.

Calories.—0.91 per gram; 26.0 per ounce.

Use.—For use in low sodium and other therapeutic diets.

Matchless Brand Dietetic Pack Whole Kernel Corn.

Ingredients: Tendermost variety corn packed in water without any added sugar or salt.

Analysis (submitted by distributor).—Total solids 17.4%, moisture 82.6%, fat (ether extract) 0.51%, protein (N × 6.25) 2.04%, crude fiber 0.33%, available carbohydrate 13.81%, sodium 1.2 mg./100 gm.

Calories.—0.68 per gram; 19.3 per ounce.

Use.—For use in low sodium and other therapeutic diets.

Matchless Brand Dietetic Pack Sweet Peas.

Ingredients: Peas (surprise variety) packed in water without any added salt.

Analysis (submitted by distributor).—Total solids 11.7%, moisture 88.3%, fat (ether extract) 0.20%, protein (N × 6.25) 3.14%, crude fiber 1.34%, available carbohydrate 5.33%, sodium 8.58 mg./100 gm.

Calories.—0.36 per gram; 10.2 per ounce.

Use.—For use in low sodium and other therapeutic diets.

A STATEMENT CONCERNING VITAMIN D PREPARATIONS REGARDED AS SUITABLE FOR USE IN COUNCIL-ACCEPTED VITAMIN D FORTIFIED MILKS

Concurrent with the increasingly wide use of vitamin D-fortified milk, a number of vitamin D concentrates containing various emulsifying agents have come into use. The safety of some of these emulsifiers does not appear to have been completely established as yet. It is the considered opinion of the Council that such substances should not be incorporated in foods for widespread use until convincing evidence is available demonstrating their harmlessness. Therefore, only those vitamin D concentrates containing emulsifying agents permitted as optional ingredients in standards for foods under the Food, Drug, and Cosmetic Act will be considered as suitable for use in Council-accepted vitamin D milks or other accepted products.

COUNCIL ON PHYSICAL MEDICINE AND REHABILITATION

APPARATUS ACCEPTED

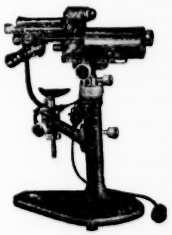
The following additional products have been accepted as conforming to the rules of the Council on Physical Medicine and Rehabilitation of the American Medical Association for inclusion in Apparatus Accepted. A copy of the rules on which the Council bases its action will be sent on application.

RALPH E. DE FOREST, M.D., *Secretary.*

Rodenstock Eye Refractometer

Optische Werke G. Rodenstock, Munich 5, Germany. Distributor: Anton Heilman, 75 Madison Ave., New York 16.

The Rodenstock Eye Refractometer is an instrument for measuring the total refractive power of the eye and determining its astigmatism, including the inclination of axis. Crated for shipment, the instrument measures 49 by 78 by 66 cm. (19 by 21 by 26 in.) and weighs 50 kg. (110 lb.). This shipping weight includes the following accessories: a schematic eye for practice, a transformer for 110 to 220 volt alternating current or a converter for direct current supply, spare bulbs, sanitary shield, shield for the eye not being examined, plastic cover, carrying case, and a wrench for releasing the instrument from the carrying case.



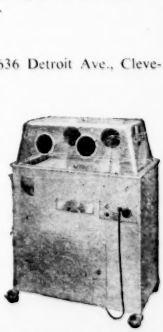
Rodenstock Eye Refractometer

Evidence from sources acceptable to the Council showed that the instrument was sound in principle as a means of measuring ametropias and astigmatism.

Infantair, Model 1500

Continental Hospital Service, Inc., 18636 Detroit Ave., Cleveland (Lakewood) 7, Ohio.

The Infantair, Model 1500, is an incubator for infants equipped to supply warmth, humidity, and oxygen. The top, called the Perma-Vue Hood, is a rectangular dome molded out of a single piece of stout transparent plastic substance with two portholes. A nipple is provided for attachment to the supply of oxygen.



Infantair, Model 1500

The apparatus requires 110 volts of either alternating or direct current and draws 736 watts. It is equipped with casters for rolling on the floor. Unpacked, it measures 123 (height) by 89 by 50 cm. (48½ by 35 by 19½ in.) and weighs 48 kg. (105 lb.). Packed for shipment it weighs 119 kg. (260 lb.) and measures 132 by 94 by 56 cm. (52 by 37 by 22 in.).

Evidence from sources acceptable to the Council indicated that this apparatus is sound in construction and satisfactory in operation.

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"EQUALIZATION PAY" FOR PHYSICIANS IN ARMED FORCES

At the annual meeting of the American Medical Association, which was held in New York City in June of this year, certain questions arose concerning the "equalization pay" authorized for physicians who are serving in the armed forces and in the United States Public Health Service. This editorial has been prepared in accordance with the wishes of the House of Delegates and in order to make public background information concerning the bases and justification for such pay.

The authority for this special pay is contained in Section 203 of Public Law 351, 81st Congress, known as the "Career Compensation Act of 1949," as amended by Public Law 410, 82nd Congress, and Public Law 84, 83rd Congress. This act, as amended, provides for the payment of $100 a month to those officers commissioned in the Medical, Dental, and Veterinary Corps of the regular service and ordered into the active military service prior to July 1, 1955, and to those reserve officers who volunteer for, or are ordered into the active military service prior to July 1, 1955, for a period of one year or longer.

After the close of World War II, the armed forces experienced difficulties in the procurement of physicians. Many members of the peacetime corps were eligible for retirement; many others resigned to obtain civilian positions. At the same time the procurement of new officers became increasingly difficult. This situation would have caused much concern even if our military forces had followed the traditional pattern and rapidly reverted to small peacetime forces. Instead, world conditions subsequent to World War II required that we maintain large forces and global garrisons. As a result, the medical services were not able to maintain, on a voluntary basis, a Medical Corps competent to furnish even a minimal standard of medical attendance to the armed forces.

The Congress, in 1947, explored ways and means of meeting this critical situation. Investigation into the causes of the shortage of medical officers revealed that physicians had to be willing to accept a considerable financial sacrifice if they chose to accept a military career. It would, of course, have been impractical to attempt to eliminate entirely the disparity of income between the civilian physician and the medical officer. However, during the course of the hearings on this plan, it became evident that, entirely apart from this difference in earnings, a basic inequity existed in the pay structure of the armed forces. As a result, Congress selected a reimbursement plan to create, insofar as possible, equality of compensation between the medical officer and the other officers of the armed forces. Such a plan, it appeared, would be equitable and economical, yet provide a necessary vehicle for the procurement and retention of career medical officers.

The question of equality of compensation requires some clarification. Although the American Medical Association has not made a comparative study of the incomes of physicians in service and in civilian life, nor of the incomes of officers in the various branches of the armed services, the figures compiled by the Office of the Surgeon General of the Army appear to be valid. The study of the Surgeon General reveals that a person pursuing a four year technical or scientific course leading to a baccalaureate degree in an accredited university meets, upon graduation, the educational requirements for appointment as an officer. In contrast, a medical student must finance a total college and professional education of up to eight years. Internship requires an additional year of training. His former classmates who have entered the military service in the meantime have been receiving full pay and allowances as officers. When the physician finally meets the requirements for a commission in the armed forces, his former classmates have a four to five year lead. Thirty years after they have started their respective careers, these categories of officers are approximately $81,000 ahead of the medical officer, even though the medical officers are originally commissioned one grade higher. It was on this clearly justifiable basis and in the belief that it would prove to be at least a partial solution to the problem that Congress provided for the equalization pay. All the reasons advanced in the interest of the passage of such legislation at that time have equal if not increased validity today.

As a result of the "emergency," which has existed for the past several years, physicians have been provided from reserve components and directly from civilian life by means of the "Doctor-Draft" law. Many of these physicians are mature and experienced and occupy responsible positions; such officers are now being released from the active military service to return to their civilian practices. To maintain the stability and efficiency of the Medical Corps a percentage of these officers should be replaced by career officers. Thus, the maintenance of an equalization pay is essential if even a minimum number of career officers is to be recruited from this potential source.

It is significant that the payment of this special pay should have had a marked effect upon military procurement programs. Inasmuch as it certainly does not equalize the pay scale of the medical officer and the other officers of the armed forces, it is clear that its effectiveness lies elsewhere. It promises, in effect, fairness of treatment and careful consideration in the advancement toward professional skill, the same consideration evidenced by taking into account the additional years of training that a physician must undergo.

The terms "bonus" or "incentive pay" as applied to additional compensation for doctors are misleading.

These terms make it appear that members of the health professions are being singled out for special treatment not accorded to members of other corps or branches of the service. This was not the intention or the result of the law, which was enacted primarily upon the recommendation of the Department of Defense. The real purpose of the law was to make the pay of physicians in uniform more closely approximate comparative earnings for similar personnel outside of the service and to adjust, in terms of total compensation received during a service career, the amount received by members of the health professions with those received by other career officers.

SERVING THE PUBLIC

There probably are few persons in the United States today who have not heard the words "public relations." How many have offered their opinion on how to achieve effective relations is not subject to count, but some who are trained in this field in exasperation have said almost everyone at some time has had some advice to offer. The subject has been of particular concern to the medical profession during the last few years. As a result there have been formed many committees and departments within the associations' framework to deal specifically with public relations. Much has been accomplished by those who have been sufficiently farsighted to see the difference between publicity and public relations. Some of the state medical societies and county medical societies have originated ideas for their members and for the public that have done much to increase and even reestablish in some instances the bond between doctors and patients.

Recently there came to the attention of the editorial department of THE JOURNAL a statement placed in a local newspaper by the Los Angeles County Medical Association. This local society offered to the public first aid instructions to meet most household emergencies. The reader can paste the statement, cut from the newspaper, on the back of a medicine cabinet door or in any other equally handy location. Its health value in the household is obvious, and its public relations value should be equally obvious.

In the same mail for THE JOURNAL office there was a booklet entitled "Information for Patients" prepared by the Presbyterian Hospital in Philadelphia. Written in a spritely but fully informative way, it tells the patient what he should know before he arrives at and after he enters the hospital. It freely discusses services and costs and even offers a reply to the question "Are hospital charges high?" The booklet is pocket-sized and contains about 50 pages of information on subjects from insurance to birth certificates and even meals for guests. Many frequently heard questions are answered, and the booklet will do much to put the patient, his family, and his guests at ease.

These are examples of the acts of persons genuinely interested in providing health service for the community. Nothing but good can come of such activities, and they, like similar efforts, can be emulated in other centers to the advantage of all.

A JOB WELL DONE

On page 665 of this issue there is published in full the report of Mr. Eugene R. Warren, Special Assistant Attorney General of the State of Arkansas. Mr. Warren has taken several months from his law practice to gather evidence to establish that an eclectic medical license issued years ago to Jacob S. Schirmer was obtained by fraud and deceit. Mr. Warren is to be congratulated for his painstaking thoroughness in assembling documentary proof that Schirmer not only was practicing medicine in Arkansas illegally but was an exponent of unestablished and discredited forms of therapy for which he charged suffering victims of chronic disease large sums of money payable in advance.

Mr. Warren's task was perhaps made easier by reason of the fact that certain departments at the headquarters of the American Medical Association were able to furnish him documentary proof of some of the aspects of the fraud practiced on the citizens of Arkansas from the licensure standpoint and on many others suffering from disease, or believing that they were so afflicted, who had gone to the so-called research hospital. Patients the country over have been urged by certain alleged ministers of the gospel to go to Schirmer for treatment. While it is probably true that the details of his fraudulent character may not have been known to them, nonetheless they found a person outside the pale of organized medicine whose organizational abilities suited their needs in exploiting worthless drugs that they were selling or promoting. Specifically referred to in this instance is Gerald Winrod, an evangelist, radio orator, and publisher, who has written frequently in his "Defender Magazine," praising several widely known cancer quacks, the uselessness of whose medicines and treatments is well known to the medical profession. By "defending" these persons, Mr. Winrod has effectively classified them, as far as the true nature of their activities is concerned.

Also referred to is the Christian Medical Research League of Detroit, in which Mr. Winrod seemed to have much interest and that sells "Glyoxylide" at $25 for 2 cc. ampules. These ampules contain material that has been described by chemists of the federal government as being indistinguishable from distilled water. The preparation has recently been the subject of an order by the Federal Trade Commission directed against Dr. William F. Koch and others, forbidding them to advertise this and their other nostrums as having any therapeutic merit in any of the disease conditions for which they are sold.

If the matter reported on is the subject of testimony in the circuit court of Clay County, Ark., it is entirely possible that further details of this sordid combination will be brought to light. Exploiting human misery is a ghoulish business. To reveal the true nature of those who follow this course of conduct is indeed a service not only to those in Arkansas but to the nation as a whole. It is for this reason that the full report of the investigation is printed. Public and licensing officials elsewhere should be alert to the possibility that similar persons operate in their jurisdictions.

MEDICAL NEWS

CALIFORNIA

Meeting on Cerebral Palsy.—At the meeting of the Cerebral Palsy Association, Oct. 21, 3-5 p. m., at the Los Angeles County Medical Association, 1925 Wilshire Blvd., Dr. Brevin Plum, professor of pediatrics, Royal Hospital Medical School, Copenhagen, Denmark, will present "Early Diagnosis and Treatment of Cerebral Palsy."

Personal.—Dr. Francis Scott Smyth, dean, University of California School of Medicine, San Francisco, has been appointed by President Eisenhower to the board of foreign scholarships for a term of three years. The board is concerned with the management of the Fulbright Fellowship program of the Department of State.

Symposium on Cardiac Disease.—The Los Angeles County Heart Association holds its annual symposium on cardiac disease, Oct. 20-21, at the Wilshire Ebell Theatre, Los Angeles. Dr. Edgar F. Mauer, president of the Los Angeles County Heart Association, will open the meeting at 9:30 a. m. Guest speakers will be Drs. George E. Burch, New Orleans, Lewis Dexter, Boston, Harald M. Eliasch, Stockholm, Sweden, and Paul Wood, London, England. In addition to the presentation of papers, they will participate in a round-table discussion during the Tuesday afternoon symposium on the surgical relief of mitral stenosis, when, together with Dr. George C. Griffith, Pasadena, they will discuss valvulotomy for mitral stenosis, selection of patients, role of cardiac catheterization, and preoperative and postoperative care and results. Dr. William Paul Thompson, Los Angeles, will serve as moderator.

CONNECTICUT

Hospital Lectures.—The Hartford Hospital announces the following lectures in its Saturday morning 11 o'clock series:

Oct. 17, Lewis W. Hill, Boston, Oral Cortisone in Asthma and Eczema in Children.
Oct. 24, John F. Enders, Ph.D., Boston, Some Recent Advances in Poliomyelitis (Dwight Griswold Memorial Lecture).
Oct. 31, William Dameshek, Boston, Idiopathic Thrombocytopenic Purpura.

FLORIDA

State Medical Election.—The Florida Medical Association at its annual meeting in Hollywood installed Dr. Frederick K. Herpel, West Palm Beach, as president; elected Dr. Duncan T. McEwan, Orlando, president-elect, and Drs. Thomas H. Bates, Lake City, Russell B. Carson, Fort Lauderdale, and Thomas C. Kenaston, Cocoa, vice-presidents; and reelected Dr. Samuel M. Day, secretary-treasurer, and Dr. Shaler A. Richardson, editor of the journal, both of Jacksonville.

District Medical Meetings.—The Northwest Medical District of the Florida Medical Association will meet at the W. T. Edwards Tuberculosis Hospital, Tallahassee, Oct. 19. The address of welcome by Dr. Charles F. James Jr., Tallahassee, president, Leon-Gadsden-Liberty-Wakulla-Jefferson County Medical Society, will open the scientific assembly at 2:30 p. m. By invitation Dr. Francisco A. Hernandez, Miami, will present "The Clinical Differentiation of Congenital Heart Lesions Amenable to Surgery," and Dr. Milton S. Saslaw, Miami, "Paradoxical Skin Response in Rheumatic Activity: A Possible Test." Refreshments by the host society will precede dinner, 6:30 p. m., ($5).

The Northeast Medical District will meet at the Ponce de Leon Golf Club in St. Augustine, Oct. 20. The scientific assembly will open at 2:30 p. m. with an address of welcome by Dr. John M. Canakaris, Bunnell, president, St. Johns County Medical Society. Dr. C. Ashley Bird, Jacksonville, will discuss "Diagnosis and Treatment of Intracranial Aneurysms," and Dr. Francisco A. Hernandez, Miami, will discuss, by invitation, "The Clinical Differentiation of Congenital Heart Lesions Amenable to Surgery."

The Southwest Medical District will have its meeting in the Palm Room, Tampa Terrace Hotel in Tampa, Oct. 21. The address of welcome by Dr. Arthur R. Knauf, Tampa, president, Hillsborough County Medical Society, will precede the presentation by Dr. Edward I. Melich, Bay Pines, of "Digitalis Brought Up to Date." By invitation Dr. Milton S. Saslaw, Miami, will discuss "Paradoxical Skin Response in Rheumatic Activity: A Possible Test."

The meeting of the Southeast Medical District, scheduled for the Flotilla Club, West Palm Beach, Oct. 22, will open with an address of welcome by Dr. Graham W. King Jr., Delray Beach, president, Palm Beach County Medical Society, 2:30 p. m. "The Fundamentals of Fluid and Electrolyte Balance (Explanation of Milliequivalents)" will be discussed by Dr. George F. Schmitt Jr., Miami, and "The Treatment of Injuries of the Face and Head" by Dr. George W. Robertson III, Miami. Refreshments by the host society will precede dinner at 6:30 p. m. ($5).

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

ILLINOIS

Clinics for Crippled Children.—The University of Illinois division of services for crippled children is conducting clinics providing diagnostic orthopedic, pediatric, speech, and hearing examinations together with medical, social, and nursing services. There will be special clinics for children with rheumatic fever and for cerebral palsied children. Clinics are held by the division in cooperation with local medical and health organizations. Clinicians are selected among private physicians who are certified board members. Any private physician may refer or bring to a convenient clinic any child for whom he may want examination or consultative services. The following clinics have been scheduled:

Oct. 21, Chicago Heights, St. James Hospital.
Oct. 22, Bloomington, St. Joseph's Hospital; Mt. Vernon, Masonic Temple; Rockford, St. Anthony Hospital.
Oct. 23, Chicago Heights (Rheumatic Fever), St. James Hospital.
Oct. 27, Effingham (Rheumatic Fever), Douglas Township Building; East St. Louis, Christian Welfare Hospital; Peoria, St. Francis Hospital.
Oct. 28, Springfield (Cerebral Palsy), Memorial Hospital; Alton, Alton Memorial Hospital.

In carrying on its program the division works cooperatively with local medical societies, hospitals, the Illinois Children's Hospital-School, Chicago, civic and fraternal clubs, visiting nurse associations, local social and welfare agencies, local chapters of the National Foundation for Infantile Paralysis, and other interested groups. The work of the division is intended to extend and supplement—not supplant—activities of other agencies, public or private, state or local, carried on in behalf of crippled children.

Chicago

Lectures on Medical History.—The Chicago Medical School, 710 S. Wolcott Ave., announces that the following lectures in its series, "Introduction to the History of Medicine," will be given in Amphitheater A at 12:30 p. m.:

Oct. 20, Ancient Medicine, Erwin H. Ackerknecht, professor of the history of medicine, University of Wisconsin Medical School, Madison.
Oct. 27, Greek Medicine, Frederick Stenn, lecturer, history of medicine, University of Illinois College of Medicine.

Annual Lectures on Cancer.—The fourth annual cancer lecture series at Northwestern University Medical School is offered at Thorne Hall, Chicago Ave. and Lake Shore Dr., at 5 p. m. on Wednesdays. On Oct. 14, Dr. Algernon B.

Reese, professor of ophthalmology, Columbia University College of Physicians and Surgeons, New York, will discuss ocular neoplasms. Future lectures include:

Oct. 21, Enzyme Levels in the Tumor-Bearing Host, Jesse P. Greenstein, Ph.D., Bethesda, Md.
Oct. 28, Pathologic Diagnosis of Breast Cancer, Otto Saphir, Chicago.
Nov. 4, Carcinoma of the Pancreatoduodenal Area, Richard B. Cattell, Boston.
Nov. 11, Radiation in Tumor Growth, Austin M. Brues, Chicago.
Nov. 18, Carcinoma of the Thyroid Gland, Warren H. Cole, Chicago.
Nov. 23, Clinicopathologic Correlation of Nevi and Malignant Melanomas, Arthur C. Allen, New York.

Meetings for Parents of Preschool Deaf Children.—The Speech and Hearing Rehabilitation Clinic, Illinois Eye and Ear Infirmary, 904 W. Adams St., is sponsoring meetings designed to help parents understand their preschool deaf children and provide preparatory informal training at home until school age is reached. The following lectures will be held at 7:15 p. m.:

Getting Ready to Listen, Oct. 20.
How Your Child Grows, Part I, Oct. 27, Part II, Nov. 3; Part III, Nov. 10.
Experiences in a Nursery School, Nov. 17.
Language and the Pre-Readiness Period, Nov. 24; Dec. 1.
The State and Local Community, Your Child and You, Dec. 8.
Round-Up, Dec. 15.

Demonstrations with children will be held at 10 a. m.: Oct. 26, "Listening," Nov. 30 and Dec. 7, "Lip Reading, Talking, Reading and Writing."

KENTUCKY

Conference on Handicapped Children.—The Kentucky Conference on Handicapped Children will be held at the Seelbach Hotel, Louisville, Oct. 22-23, under the sponsorship of the recently formed Kentucky Coordinating Council for the Study of Handicapped Children and the Nemours Foundation, Wilmington, Del. Dr. Alfred R. Shands Jr., Wilmington, Del., medical director of the foundation, will serve as general adviser to the conference.

University News.—The University of Louisville School of Medicine announces the following appointments: Dr. Earl F. Hoerner, acting chairman of the department of physical medicine and rehabilitation, and acting director of the Rehabilitation Center; Dr. Donald A. Covalt, clinical director of the Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, as consultant to the department of physical medicine and rehabilitation, and to the Rehabilitation Center; and Dr. Hugh B. Lynn, Newark, N. J., as assistant professor of surgery.

MAINE

Legislative Research Hearings.—The Legislative Research Committee of the State of Maine will hold a public hearing Oct. 20, 1:30 p. m., at the state house, Augusta, on the problem of hospital aid, including costs of operation and methods of financial support. The committee will also hold a public hearing Oct. 21, 9:30 a. m., at the state house, on the problem of the organization of public health services.

Mental Health Clinics.—The division of mental health, state department of health and welfare, offers psychiatric clinic service to children and adults in the following cities:

Portland, health and welfare department, 178 Middle St., every Tuesday.
Lewiston, outpatient department, Central Maine General Hospital, every Monday.
Augusta, bureau of health, division of mental health, by appointment.
Waterville, Mansfield Clinic, Thayer Hospital, 3rd Wednesday.
Bangor, outpatient department, Eastern Maine General Hospital, 1st Wednesday afternoon; Valentine School, Union St., 1st Thursday.

A traveling clinic visits the following towns and cities at irregular intervals: Caribou, Houlton, Lincoln, Machias, Rockland, and Rumford. Patients are seen by appointment only. Each child must be accompanied by a parent or guardian. Applications should be sent to the Director, Division of Mental Health, Department of Health and Welfare, State House, Augusta.

MARYLAND

Personal.—At the recent commencement at Washburn University, Topeka, Kan., the alumni association presented a distinguished service award to Dr. Henry R. O'Brien of the U. S. Public Health Service. Dr. O'Brien is a member of the Connecticut State Medical Society. The university conferred on Stacy R. Guild, Ph.D., associate professor of otolaryngology, Johns Hopkins University School of Medicine, Baltimore, the honorary degree of doctor of science.

General Practitioners Meet in Baltimore.—The annual scientific assembly of the Maryland Academy of General Practice will be held at the Lord Baltimore Hotel, Baltimore, Oct. 21. The morning session will be devoted to presentation of "Late Complications of Diabetes: Prevention and Treatment" by Dr. Alexander Marble, Boston, and "The Management of Cardiac Failure" by Dr. Charles C. Wolferth, Philadelphia. Discussion of "The Indications for Pulmonary Resection" by Dr. Herbert C. Maier, New York, 1:15 p. m., will be followed by the speech, "The Management of Osteoporosis," by Dr. Ephraim Shorr, New York. Dr. Robert H. Barter, associate professor of obstetrics and gynecology, George Washington University School of Medicine, Washington, D. C., will present "X-Ray Diagnosis of Pregnancy," 3:45 p. m., and Dr. Charles F. Geschickter, professor of pathology, Georgetown University School of Medicine, Washington, D. C., will discuss "The Newer Treatment of Asthma," 4:45 p. m. The principal address at the banquet will be given by Alfred P. Haake, Ph.D., economic consultant to the General Motors Corporation, whose subject will be "Pills and People." There is no registration fee for the scientific program. Tickets for the banquet ($7.50 per plate for physicians and $5 for their wives) may be obtained from Dr. Nathan E. Needle, 4215 Park Heights Ave., Baltimore 15.

MICHIGAN

Cancer Conference.—The fifth Michigan Cancer Conference will be held at the Kellogg Center, East Lansing, Oct. 21, under the cosponsorship of the Michigan State Medical Society, the two Michigan divisions of the American Cancer Society, and the Michigan Department of Health. The conference theme, "Behind the Scenes in Cancer Control," will be developed by Drs. John S. DeTar, Milan; Solomon G. Meyers, Detroit; Russell L. Mustard, Battle Creek; and James C. Cook, Detroit. Dr. John R. Heller, director of the National Cancer Institute, Bethesda, Md., will report on recent research problems in the cancer field. A five year report on the Hillsdale plan for tumor detection will be given by Dr. Arthur W. Strom, Hillsdale. After luncheon there will be a panel discussion on the morning topics and other questions that the audience may propose. The conference is open to all.

Television Course for Parents.—The University of Michigan Medical School, Ann Arbor, is presenting a course to parents, entitled "The Growing Baby." This telecourse will be carried over television stations WWJ-TV, Detroit, WJIM-TV, Lansing, and WKZO-TV, Kalamazoo, in simultaneous broadcasts. There will be eight consecutive programs, beginning Oct. 18, each Sunday at 1 p. m., originating in the studios of WWJ-TV. The aim of this series is to acquaint parents and prospective parents with the normal physiological processes and growth of their children and with the dangers that may befall their children from birth to about 5 years. "The Growing Baby" is being coordinated by Dr. Harry A. Towsley, associate professor of pediatrics and communicable diseases. The following subjects will be discussed in October:

Lesson 1, Oct. 18, Care of the Newborn, Bruce D. Graham, assistant professor of pediatrics and communicable diseases, and Miss Ruth Carney, RN, assistant professor of nursing.
Lesson 2, Oct. 25, Feeding Your Baby, James L. Wilson, professor of pediatrics and communicable diseases.

Symposium on Virus Infections.—The International Symposium on the Dynamics of Virus Infections will be held at Henry Ford Hospital, Detroit, Oct. 21-23. The Wednesday morning session on mechanisms of virus and rickettsial infections will be moderated by Dr. Thomas M. Rivers, Hospital

of the Rockefeller Institute for Medical Research, New York, and the afternoon session on the same topic by Dr. John G. Kidd, Cornell University Medical College, New York. Thursday morning Dr. Albert B. Sabin, the Children's Hospital Research Foundation, department of pediatrics, University of Cincinnati College of Medicine, will be moderator for a discussion on ecology and pathogenesis, and Thursday afternoon Dr. John Paul, Yale University School of Medicine, New Haven, Conn., will moderate a discussion on mechanisms of immunity. "Methods of Virus and Rickettsial Diagnosis" is the topic for the Friday morning session, which will have as moderator Dr. Andrew J. Rhodes, Hospital for Sick Children, Toronto, Canada. Dr. Gilbert J. Dalldorf, division of laboratories and research, New York State Department of Health, Albany, will moderate the closing session Friday afternoon, for which the topic is "Chemical Approaches to Prophylaxis and Therapy of Virus and Rickettsial Diseases."

Institute of Industrial Health.—The Institute of Industrial Health and the School of Public Health, University of Michigan, Ann Arbor, offer a conference on expert and technical testimony in medical and health problems, Oct. 21, at the School of Public Health, 109 S. Observatory St. Dr. Otto Tod Mallery Jr. is director of the institute, and Henry F. Vaughan, Dr.P.H., is dean of the school. The program will include the following presentations:

Attorneys, Technical Witnesses, and the Courts (the conference keynote address), J. Joseph Herbert, LL.B., Manistique.
The Physician's Obligations to the Courts (the medical keynote address), Edward D. Spalding, Detroit.
Judicial Procedure as It Applies to Technical Witnesses, Charles W. Joiner, J.D., Ann Arbor.
Preparation of the Technical Witness Prior to Court Appearance (the attorney's viewpoint), Mr. T. Donald Wade, Detroit.
Medical Preparation of a Medical-Legal Case (the physician's viewpoint), Theodore J. Curphey, Hempstead, N. Y.
Use of Scientific Records and Exhibits in the Court Room, Eli Sherman Jones, Hammond, Ind.
The Dilemma of Official Agencies as to Court Appearance, Mr. William G. Frederick, Detroit.

Dinner at 6 p. m. in the Michigan Union will precede presentation of "Good and Bad Technical Witnesses Based Upon a Compensation Claim in a Simulated Case of Silicosis—A Demonstration," which will be given by a cast of characters including a judge, plaintiff attorney, defense attorney, a court stenographer, good witness, and bad witness. Commentary will be offered by Charles W. Joiner, J.D.

MINNESOTA

Judd-Plummer Memorial Lecture. — Dr. Louis H. Bauer, Hempstead, N. Y., immediate Past President of the American Medical Association, gave the sixth Judd-Plummer Memorial lecture in Rochester, Oct. 2, at St. Mary's Auditorium. His subject was "The Impact of Current Socio-Economic Trends Upon American Medicine."

NEW YORK

Foreign Professors Join State University Staff.—Visiting professors from Brussels, Belgium, Dublin, Ireland, and Birmingham, England, have been appointed to the staff of the State University of New York College of Medicine at Brooklyn for the 1953-1954 academic year. Dr. François Kleyntjens, acting chief, department of neurology, Brussels University Hospital, will serve as visiting professor of physiology. Dr. Edward Solomons, obstetrician and gynecologist of Dr. Steevens Hospital in Dublin, is the guest jointly of the college's department of obstetrics and gynecology and of Maimonides Hospital, Brooklyn, for the month of October. Dr. Solomons is an examiner for membership in the Royal College of Physicians of Ireland. Dr. Brian MacMahon of Birmingham, England, who has spent the past year at the Harvard School of Public Health in the department of epidemiology as a Rockefeller Foundation fellow, has joined the staff of the college's department of environmental medicine and community health, as visiting lecturer.

New York City

Tumor Clinic Conference.—Dr. Harold W. Dargeon, attending pediatrician, Memorial Center for Cancer and Allied Diseases, will be guest speaker at a tumor clinic conference at Harlem Hospital, Oct. 21, 10:45 a. m. His subject will be "Diagnosis of Pediatric Cancer."

Dr. Crohn Honored.—The American Gastroenterological Association has presented to Dr. Burrill B. Crohn the Julius Friedenwald Medal. Dr. Crohn has been affiliated with Mount Sinai Hospital since 1908 and was chief of its gastroenterology clinic from 1924 until 1932, and since that time he has been consultant gastroenterologist. The presentation was made by Dr. Walter C. Alvarez, Chicago.

Lecture on Breast Cancer.—The department of radiology of the New York University College of Medicine will sponsor a lecture, entitled "The Rationale and Results of Simple Mastectomy Plus Irradiation in Treating Breast Cancer," by Dr. Robert McWhirter, professor of radiation therapy, University of Edinburgh, Edinburgh, Scotland, Oct. 22, 8:30 p. m., in the main lecture hall of the university (477 First Ave., near 28th St.).

NORTH CAROLINA

Society News.—The North Carolina Orthopedic Association has elected Dr. Julien E. Jacobs, Charlotte, president; Dr. Everett I. Bugg, Durham, vice-president; and Dr. George W. Holmes, Winston-Salem, secretary-treasurer.

Triennial Alumni Reunion.—The medical and nurses' alumni of Duke University, Durham, will hold their fourth triennial reunion Oct. 22-24. The program will include a scientific session with papers by alumni, special conferences, and departmental open houses. Entertainment will include the Duke-North Carolina State football game, Oct. 24, in Duke Stadium. Dr. Joseph B. Stevens, Greensboro, is president of the Duke Medical Alumni Association, and Arlene Ledford, Durham, is president of the Duke Nurses' Alumnae Association.

OHIO

Society News.—The Cincinnati Otolaryngologic Society has elected Dr. Gerson Lowenthal, president; and Dr. Edward T. Juler, secretary-treasurer. —— The Academy of Medicine of Cincinnati will have as guest speaker Oct. 20, Dr. Frederic A. Gibbs, chief, division of electroencephalography, University of Illinois College of Medicine, Chicago, who will present "Electroencephalography—A Clinical Tool."

Cardiac Poster Contest.—The Cleveland poster art contest sponsored annually in Cleveland schools by the Central Outdoor Advertising Company, is cosponsored this year by the Cleveland Area Heart Society. The subject of the contest is "The Heart and Heart Disease." There will be $600 in awards contributed by J. A. Zimmer. An exhibition will be held in April, 1954, when the prizes will be awarded.

OKLAHOMA

School Health Conference. — Sponsored by the Oklahoma School Health Administrators' Association, Oklahoma Advisory Health Council, Oklahoma State Health Department, and the Oklahoma State Medical Association School Health Committee, the third annual school health conference is being held in Norman, Oct. 16-17. The conference will give attending physicians an opportunity to assist in the planning and development of school health programs. The meeting is scheduled for the week end of the Oklahoma-Kansas football game in Norman, Oct. 17, which is also "Dad's Day" at the university.

TEXAS

Seminars on Social Psychiatry.—The department of psychiatry of the University of Texas Medical Branch, Galveston, announces a special seminar, "The History of Social Psychiatry," to be held each Tuesday at 4 p. m. during the academic year. The seminar group will study psychological factors that contribute to psychiatric disorders.

University News.—Among recent appointments at the University of Texas Medical Branch, Galveston, are those of Dr. Kenneth M. Earle, formerly associated with Dr. Wilder G. Penfield at the Neurological Institute of McGill University, Montreal, who becomes associate professor of neuropathology, and Dr. Truman G. Blocker Jr., professor of surgery at Galveston, who has accepted appointment as dean of the faculty of medicine. Donald Duncan, Ph.D., professor of anatomy, has been appointed associate dean of the Graduate School of the university for the Medical Branch.——Dr. Hans Selye of the University of Montreal Faculty of Medicine, will be a guest speaker on the adaptation reaction, at the medical branch in Galveston, Oct. 22, under the auspices of Phi Delta Epsilon medical fraternity.

VIRGINIA

Bequest to Establish Chair of Surgery.—The late Dr. Stephen H. Watts, from 1907 until his retirement in 1928 professor of surgery, University of Virginia School of Medicine, Charlottesville, bequeathed a half-million dollars to the medical school for the establishment of the Stephen H. Watts Chair of Surgery, any remaining income to be used for research in medicine and surgery.

State Medical Meeting in Roanoke.—The Medical Society of Virginia will meet at the Hotel Roanoke in Roanoke Oct. 18-21, under the presidency of Dr. James L. Hamner, Mannboro. At 11:25 a. m. "The Virginia State Health Department's Legislative Program for Irradication of Tuberculosis" will be presented by Drs. Mack I. Shanholtz, Richmond, commissioner, and William F. Wagner, director, Division of TB Control, Virginia State Department of Health. Monday afternoon Dr. Alexander McCausland, Roanoke, will serve as chairman for a symposium on diagnosis of arthritis and related disorders. Dr. Arnold J. Rawson, Norfolk, will be chairman for a symposium on electrolytes sponsored by the Virginia Society for Pathology and Laboratory Medicine. Dr. Hamner will give the presidential address at 8:30 p. m. Monday. Tuesday morning there will be a cardiology symposium, with Dr. William B. Porter, Richmond, as chairman. Dr. Robert L. King, Seattle, president of the American Heart Association, guest speaker, will discuss "Rheumatic Fever and Heart Disease" at 11 a. m. Panel discussion on cardiac problems will follow. The obstetrical and gynecological symposium Tuesday morning will have as chairman Dr. John R. Kight, Norfolk, and as guest speaker Dr. Charles Hampton Mauzy Jr., professor of obstetrics and gynecology, Bowman Gray School of Medicine, Winston-Salem, N. C., whose topic will be "Obstetrics Now and Twenty-Five Years Ago." A panel discussion will follow his presentation. Tuesday afternoon Dr. Charles S. Wise, professor of physical medicine and rehabilitation, George Washington University School of Medicine, Washington, D. C., will open a symposium with a discussion of the rehabilitation problem. Dr. A. Ray Dawson, Richmond, will moderate a panel discussion on general problems of rehabilitation. Guest speaker in the Tuesday afternoon symposium on lymphomas and leukemias (Dr. Byrd S. Leavell, Charlottesville, chairman) will be Dr. Claude E. Forkner, New York, whose presentation "Advances in Leukemia" will follow a panel discussion on treatment of lymphoma. A cocktail party will precede the banquet, 7 p. m., at which Dr. Vincent W. Archer, Charlottesville, will be installed as president. Wednesday, 9:50 a. m., Dr. Edwin E. Barksdale, Washington, D. C., and associates will present, illustrated with lantern slides, "Some Skin Manifestations of Internal Disorders." A clinical pathological conference will be moderated by Dr. Kinloch Nelson, Richmond, at 11 a. m.

WISCONSIN

State Society to Build New Headquarters.—The council of the State Medical Society of Wisconsin has approved proposals for a building project to house the society's general offices and related activities, now inadequately quartered at 704 E. Gorham St., Madison. The new building will be constructed on society-owned property on the south shore of Lake Monona; the present offices are located on Lake Mendota. Total cost of the new structure is estimated at $415,000.

Pharmacists Institute.—When the Wisconsin Pharmacists Institute meets at the University of Wisconsin, Oct. 22-24, to examine the role of the pharmacist in relation to self-medication and public health, Dr. John E. Steinhaus, University of Wisconsin Medical School, Madison, will speak on antipyretics and analgesics; Dr. Paul G. LaBissoniere, director, Student Health Clinic, Marquette University, Milwaukee, will discuss antacids and laxatives; and Dr. Robert C. Parkin, coordinator of University of Wisconsin graduate medical education, will have as his topic "Self-Medication and Public Health." Papers will be presented on pharmaceutical drug control; miseducation of the public about drugs; oral antiseptic and antibacterial preparations; dental caries; and pharmaceutical legislation. Information may be obtained from Mr. William S. Apple, 301 Chemistry Building, University of Wisconsin, Madison 6.

GENERAL

Fellowship in Gastroenterology.—The American Gastroenterological Association is offering a fellowship for 1954-1955 to a qualified physician in the younger age group to conduct investigative work in gastroenterology. If the physician is unmarried, the stipend is $3,000; if married, $3,600. Applications, which should be returned by Nov. 1, may be obtained by communication with the secretary, Dr. H. Marvin Pollard, University Hospital, Ann Arbor, Mich.

Education of Cerebral Palsied Children.—A "Digest of State Legislation for the Education of Mentally Retarded Children," as it pertains to the cerebral palsied, published by the United Cerebral Palsy Legislative Bureau, is available from the national office (50 W. 37th St., New York 19). Among other essential information, the digest includes a summary of state laws on this subject, as well as a chart of the definitions of mental retardation used in the various states.

Predoctoral Fellowships.—The Life Insurance Medical Research Fund invites faculty members to nominate candidates for 1954-1955 predoctoral fellowships for research in the medical sciences, preferably in the cardiovascular field. Nomination deadline is Nov. 30. The fellowships are open to those who will have completed a year or more of work in a medical or graduate school and can devote most of their time to research; stipends, $2,000-$2,400. Information is obtainable from Dr. Francis R. Dieuaide, scientific director of the fund, 345 E. 46th St., New York 17.

Mental Hospital Institute.—Dr. Kenneth E. Appel, Philadelphia, president of the American Psychiatric Association, has announced that the fifth Mental Hospital Institute will convene at the Hotel Marion, Little Rock, Ark., Oct. 19-22, under the auspices of the American Psychiatric Association Mental Hospital Service. Dr. Winfred Overholser, Washington, D. C., is chief consultant of the service, and Dr. Daniel Blain, Washington, D. C., is director. Dr. Cleve C. Odom, superintendent of the state hospital, Little Rock, and Dr. Harold W. Sterling, manager of the Veterans Administration Hospital, North Little Rock, head the local arrangements committee.

Grants by Lasdon Foundation.—William S. Lasdon, president of the Lasdon Foundation, Inc., Yonkers, N. Y., in an eight months' report of the foundation's philanthropic activities, announces that 26 grants, totaling $178,092.54, were made to universities and medical centers throughout the United States and abroad for research in health and disease. These grants include a special grant of $15,000 to Harvard Medical School, Boston, for further studies in the transplantation of the human kidney, and a grant of $15,856 to Washington University School of Medicine, St. Louis, for research into certain phases of hypertension and other vascular diseases, under the direction of Dr. Henry A. Schroeder, St. Louis.

Award for Paper on Diabetes.—Competition is open for the annual award offered by the American Diabetes Association to medical students and interns for the best paper in the field of diabetes and basic metabolic problems. Candidates may select any subject related to diabetes for a report of original studies, a biographical or historical note, a case report with

suitable comment, or a review of the literature. Manuscripts (6-18 pages, typewritten with double spacing) should be submitted by April 1, 1954, to *The Journal of the American Diabetes Association*, 11 W. 42nd St., New York 36. The prize of $250 again is made possible by the generosity of the St. Louis Diabetes Association.

Longevity in Wage Earners.—According to the Metropolitan Life Insurance Company, New York, experience among their industrial policyholders shows that 1952 registered the ninth year of consecutive rise in longevity, the average length of life of America's wage earners and their families reaching a new high of 68.5 years. The gain in average lifetime amounts to 5 years since 1941, 10 years since 1932, and 22 years since 1911-1912. In 1879-1889 the average lifetime was only 34 years, less than half that for 1952. The company reports that, whereas in 1911-1912 the average lifetime for industrial policyholders was about 6½ years less than that for the general population, currently the two are on a par.

Teaching Institutes.—The Association of American Medical Colleges is undertaking a series of teaching institutes; the first, Oct. 19-23 in Atlantic City, will concern itself with physiology, biochemistry, and pharmacology. Each institute is planned to bring together, by invitation, a group of medical educators. The first institute, which will precede the annual meeting of the association, Oct. 26-28, is being financed by the National Heart Institute of the U. S. Public Health Service, the medical schools, and the Association of American Medical Colleges. Future institutes are planned to cover the following areas:

Pathology, microbiology, immunology, and genetics (1954).
Anatomy, histology, embryology, and anthropology (1955).
Medical ecology (1956).
Clinical teaching including the internship (1957).
Specialty training and the continuing education of the physician (1958).

Society News.—The **American Association of Obstetricians, Gynecologists and Abdominal Surgeons** has elected Dr. Herbert E. Schmitz, Chicago, president; Dr. Thaddeus L. Montgomery, Philadelphia, president-elect; Dr. Frederick J. Lynch, Boston, vice-president; Dr. Frank R. Lock, Winston-Salem, N. C., secretary; Dr. E. Stewart Taylor, Denver, assistant secretary; and Dr. Ward F. Seeley, Detroit, treasurer. The next annual meeting of the association will be held at the Homestead, Hot Springs, Va., Sept. 9-11, 1954. Communications should be addressed to Dr. Frank R. Lock, Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, N. C.——At its fall meeting at Harrison Hot Springs in British Columbia, the **North Pacific Society of Internal Medicine** elected Dr. Howard P. Lewis, Portland, president; Dr. Edwin G. Bannick, Seattle, vice-president; Dr. Clarence C. Pearson, Seattle, secretary-treasurer; and Dr. Roger H. Keane, Portland, Ore., a member of the executive committee. In 1954 the spring meeting (March) will be held in Spokane, Wash. and the fall meeting (Sept.) in Victoria, Canada.

Safety Congress in Chicago.—The National Safety Council announces that the 41st National Safety Congress and Exposition will be held in Chicago Oct. 19-23. On Monday, 2:15 p. m. Dr. Kozme F. Kapov, medical director, Armour and Company, Chicago, will serve as leader for the panel discussion, "The Industrial Back—or How to Prevent This Type of Injury and Claim," at the Congress Hotel. Tuesday morning Dr. Vlado A. Getting, professor of public health practice, University of Michigan, Ann Arbor, will preside at a meeting in which reports on community organizations for home safety will be presented at the Conrad Hilton Hotel. Dr. Harry Wain, health officer, City-County Health Department, Mansfield, Ohio, will describe "An Action Program for the Health Department." Wednesday morning at the Conrad Hilton Hotel, there will be a symposium on industrial lighting and seeing in which Dr. Arthur L. Koven, Philadelphia, will present "Which Rays Injure the Eyes," and Dr. Hedwig S. Kuhn, Hammond, Ind., will discuss "Eyes—Facts and Fallacies." Wednesday morning at the Conrad Hilton, Dr. Gerald Gordon, Wilmington, Del., will have as his topic "Safety from the Standpoint of the Psychiatrist," and Dr. Frederick W. Slobe, Chicago, will discuss "Medical Care of Employees." Dr. Jermyn F. McCahan, New York, will discuss "Pre-Employment and Periodic Physical Examinations" at the Hamilton Hotel, and Dr. Maxwell M. Corbett, Chicago, will represent medicine in the panel discussion, "Job Placement Physical Examinations," at the Hamilton Hotel. At 3 p. m. at the Conrad Hilton Hotel, Dr. Ernest W. Miller, Milwaukee, will consider "Why is Electric Shock Serious?" Thursday at the Conrad Hilton, Dr. Richard J. Bennett Jr., Chicago, will open the afternoon session on safety in fabricating and warehousing with a discussion, "Health in Steel Warehousing Operation."

Registration fee for the congress and exposition is $5. Registration and information desks will be located in the Conrad Hilton, Blackstone, Congress, Hamilton, La Salle, Morrison, and Palmer House hotels.

Prevalence of Poliomyelitis.—According to the National Office of Vital Statistics, the following number of reported cases of poliomyelitis occurred in the United States, its territories, and possessions in the weeks ended as indicated:

Area	Oct. 3, 1953 Paralytic Type	Oct. 3, 1953 Total Cases Reported	Oct. 4, 1952 Total
New England States			
Maine	11	19	10
New Hampshire	..	3	2
Vermont	3	7	6
Massachusetts	26	42	25
Rhode Island	3	18	8
Connecticut	4	20	23
Middle Atlantic States			
New York	58	159	145
New Jersey	18	40	39
Pennsylvania	..	78	120
East North Central States			
Ohio	25	129	195
Indiana	..	26	108
Illinois	32	88	248
Michigan	53	119	252
Wisconsin	..	63	162
West North Central States			
Minnesota	32	109	321
Iowa	9	14	255
Missouri	5	18	81
North Dakota	..	6	20
South Dakota	..	17	49
Nebraska	2	4	115
Kansas	4	23	129
South Atlantic States			
Delaware	..	..	12
Maryland	12	23	26
District of Columbia	..	2	2
Virginia	14	26	35
West Virginia	12	23	42
North Carolina	9	21	15
South Carolina	..	1	13
Georgia	3	7	38
Florida	4	17	24
East South Central States			
Kentucky	1	8	71
Tennessee	1	11	36
Alabama	11	11	11
Mississippi	..	4	20
West South Central States			
Arkansas	3	5	16
Louisiana	2	5	26
Oklahoma	..	8	30
Texas	17	36	83
Mountain States			
Montana	7	17	13
Idaho	..	6	13
Wyoming	1	2	4
Colorado	1	3	49
New Mexico	..	6	22
Arizona	5	9	27
Utah	..	11	37
Nevada	..	2	6
Pacific States			
Washington	..	24	59
Oregon	5	27	30
California	66	152	153
Territories and Possessions			
Alaska	..	..	..
Hawaii	..	..	3
Puerto Rico	3	3	..
Total	462	1,462	3,229

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.
1953 Clinical Meeting, St. Louis, Dec 1-4.
1954 Annual Meeting, San Francisco, June 21-25.
1954 Clinical Meeting, Miami, Florida, Nov. 30-Dec. 3.
1955 Annual Meeting, Atlantic City, N. J., June 6-10.
1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

AMERICAN ACADEMY FOR CEREBRAL PALSY, Western Hills Hotel, Fort Worth, Texas, Oct 30-31. Dr. Harry E. Barnett, 116 S. Michigan Blvd., Chicago 3, Secretary.

AMERICAN ACADEMY OF DERMATOLOGY AND SYPHILOLOGY, Palmer House, Chicago, Dec. 5-10. Dr. John E. Rauschkolb, P. O. Box 6565, Cleveland 1, Secretary.

AMERICAN ACADEMY OF TROPICAL MEDICINE, Brown Hotel, Louisville, Ky., Nov. 12-14. Dr. E. Harold Hinman, University of Puerto Rico, School of Medicine, San Juan 22, P. R., Secretary.

AMERICAN ASSOCIATION OF BLOOD BANKS, LaSalle Hotel, Chicago, Oct. 17-20. Miss Marjorie Saunders, 3500 Gaston Ave., Dallas 4, Texas, Secretary.

AMERICAN CANCER SOCIETY, New York, Nov. 2-6. Dr. Charles S. Cameron, 47 Beaver St., New York 4, Medical Director.

AMERICAN CLINICAL AND CLIMATOLOGICAL ASSOCIATION, The Homestead, Hot Springs, Va., Nov. 2-4. Dr. Marshall N. Fulton, 124 Waterman St., Providence 6, R. I., Secretary.

AMERICAN COLLEGE OF CARDIOLOGY, Hotel Statler, Cleveland, Ohio, Nov. 6-7. Dr. Philip Reichert, 480 Park Ave., New York 22, Secretary.

AMERICAN PUBLIC HEALTH ASSOCIATION, Hotel New Yorker and Hotel Statler, New York, Nov. 9-13. Dr. Reginald M. Atwater, 1790 Broadway, New York 19, Executive Secretary.

AMERICAN SCHOOL HEALTH ASSOCIATION, Hotel New Yorker, New York, Nov. 9-13. Dr. A. O. DeWeese, 515 East Main St., Kent, Ohio, Secretary.

AMERICAN SOCIETY FOR THE STUDY OF ARTERIOSCLEROSIS, Hotel Knickerbocker, Chicago, Nov. 1-2. Dr. O. J. Pollak, P. O. Box 228, Dover, Del., Secretary.

AMERICAN SOCIETY OF TROPICAL MEDICINE AND HYGIENE, Brown Hotel, Louisville, Ky., Nov. 12-14. Dr. John E. Larsh Jr., University of North Carolina, School of Public Health, Chapel Hill, N. C., Secretary.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES, Hotel Claridge, Atlantic City, N. J., Oct. 26-28. Dr. Dean F. Smiley, 185 N. Wabash Ave., Chicago 1, Secretary.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES, Hotel Statler, Washington, D. C., Nov. 8-11. Dr. R. R. Sayers, Armed Forces Institute of Pathology, Washington 25, D. C., Secretary.

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASES, Hotel Roosevelt, New York, Dec. 11-12. Dr. Clarence C. Hare, 710 West 168th St., New York 32, Secretary.

ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICERS, Washington Hotel, Washington, D. C., Nov. 4-7. Dr. John D. Porterfield, 306 Ohio Depts. Bldg., Columbus 15, Ohio, Secretary.

CENTRAL ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, The Shamrock, Houston, Texas, Nov. 5-7. Dr. Harold L. Gainey, Suite 602, 116 South Michigan Ave., Chicago 3, Secretary.

CONFERENCE OF PUBLIC HEALTH VETERINARIANS, Hotel New Yorker, New York, Nov. 9. Dr. James Lieberman, U. S. Public Health Service, Washington 25, D. C., Secretary.

CONGRESS OF NEUROLOGICAL SURGEONS, Roosevelt Hotel, New Orleans, Nov. 12-14. Dr. B. W. Cannon, 1092 Madison Ave., Memphis, Tenn., Secretary.

CONSTANTINIAN SOCIETY, Battery Park Hotel, Asheville, N. C., Oct. 18-21. Dr. C. F. Shook, Medical Director, Owens-Illinois Glass Company, Toledo 1, Ohio, Secretary.

INDIANA STATE MEDICAL ASSOCIATION, French Lick, Oct. 19-21. Mr. James A. Waggener, 23 E. Ohio St., Indianapolis 4, Executive Secretary.

INTERSTATE POST GRADUATE MEDICAL ASSOCIATION OF NORTH AMERICA, Palmer House, Chicago, Nov. 2-5. Dr. E. R. Schmidt, 1300 University Ave, Madison 5, Wisconsin, Secretary.

INTER-SOCIETY CYTOLOGY COUNCIL, Philadelphia, Nov. 19-20. Dr. Paul F. Fletcher, 634 North Grand Blvd., St. Louis 3, Secretary.

MIDWESTERN SECTION OF AMERICAN FEDERATION FOR CLINICAL RESEARCH, Congress Hotel, Chicago, Oct. 29. Dr. Robert J. Glaser, 600 S. Kingshighway Blvd., St. Louis 10, Secretary.

NATIONAL ASSOCIATION FOR MENTAL HEALTH, Hotel Carter, Cleveland, Oct. 31-Nov. 2. Dr. George S. Stevenson, 1790 Broadway, New York 19, Medical Director.

NATIONAL SOCIETY FOR CRIPPLED CHILDREN AND ADULTS, Palmer House, Chicago, Nov 12-14. Mr. Lawrence J. Linck, 11 South LaSalle St., Chicago 3, Secretary.

NEW ENGLAND OBSTETRICAL AND GYNECOLOGICAL SOCIETY, Hotel Somerset, Boston, Oct. 28. Dr. Carmi R. Alden, 270 Commonwealth Ave., Boston, Secretary.

NORTH PACIFIC SURGICAL ASSOCIATION, Victoria, B. C., Nov. 20-21. Dr. John A. Duncan, 509 Olive Way, Seattle, Secretary.

OKLAHOMA CITY CLINICAL SOCIETY, Oklahoma City, Oct. 26-29. Miss Alma F. O'Donnell, 512 Medical Arts Bldg., Oklahoma City 2, Executive Secretary.

OMAHA MID-WEST CLINICAL SOCIETY, Hotel Paxton, Omaha, Oct. 26-30. Miss Irene Rau, 1031 Medical Arts Bldg., Omaha 2, Executive Secretary.

PACIFIC NORTHWEST SOCIETY OF PATHOLOGISTS, Eugene, Oregon, Nov. 6-7. Dr. John L. Whitaker, 315 South K St., Tacoma 3, Wash., Secretary.

REGIONAL MEETINGS, AMERICAN COLLEGE OF PHYSICIANS:

MICHIGAN, H. H. Rackham Auditorium, Ann Arbor, Dec. 5. Dr. H. Marvin Pollard, 1313 East Ann St., Ann Arbor, Governor.

MIDWEST—ILL., IND., IOWA, MINN., WIS.—Hotel Schroeder, Milwaukee, Nov. 21. Dr Francis D. Murphy, 536 West Wisconsin Ave., Milwaukee 3, Chairman.

NEW ENGLAND—CONN., MAINE, MASS., N. H., R. I., VT.—Hartford, Conn., Oct. 28. Dr. John C. Leonard, 80 Seymour St., Hartford 15, Conn., Chairman.

NEW JERSEY, Trenton, Nov. 4. Dr. Edward C. Klein Jr., 73 Lincoln Park, Newark 2, Governor.

NORTH CAROLINA, Chapel Hill, Dec. 3. Dr. Elbert L. Persons, Duke Hospital, Durham, Governor.

REGIONAL MEETINGS, AMERICAN RHEUMATISM ASSOCIATION:

OHIO AND WESTERN PENNSYLVANIA, Mayflower Hotel, Akron, Ohio, Nov. 11. Dr. Roger Q. Davis, 1405 Goodyear Blvd., Akron 5, Ohio, Chairman.

SOUTHERN MEDICAL ASSOCIATION, Municipal Auditorium, Atlanta, Ga., Oct. 26-29. Mr. C. P. Loranz, 1020 Empire Bldg., Birmingham 3, Ala., Secretary.

SOUTHERN SURGICAL ASSOCIATION, The Homestead, Hot Springs, Va., Dec. 8-10. Dr. John C. Burch, 2112 West End Ave., Nashville 5, Tenn., Secretary.

SOUTHWESTERN MEDICAL ASSOCIATION, Pioneer Hotel, Tucson, Ariz., Oct. 29-31. Dr. C. C. Stapp, 800 Montana St., El Paso, Texas, Secretary.

VIRGINIA, MEDICAL SOCIETY OF, Hotel Roanoke, Roanoke, Oct. 18-21. Mr. Robert I. Howard, 1105 W. Franklin St., Richmond 20, Executive Secretary.

WESTERN SURGICAL ASSOCIATION, The Drake, Chicago, Dec. 3-5. Dr. Michael Mason, 154 East Erie St., Chicago 11, Secretary.

FOREIGN

ASSOCIATION OF SURGEONS OF GREAT BRITAIN AND IRELAND, Leeds, England, May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

BRITISH MEDICAL ASSOCIATION, Glasgow, Scotland, July 1-9, 1954. Dr. A. MacCrae, B.M.A. House, Tavistock Square, London, W.C.1, England, Secretary.

CANADIAN MEDICAL ASSOCIATION, Vancouver, B. C., Canada, June 18-22, 1954. Dr. T. C. Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada, General Secretary.

CONFERENCE OF INTERNATIONAL UNION AGAINST TUBERCULOSIS, Madrid, Spain, Sept. 26-Oct. 2, 1954. Secretariat, Escuela de Tisiologia, Ciudad Universitaria, Madrid, Spain.

CONGRESS OF INTERNATIONAL ANESTHESIA RESEARCH SOCIETY, Chateau Frontenac, Quebec, Canada, October 26-29. Dr. A. William Friend, 515 Nome Ave., Akron 20, Ohio, Chairman, Program Committee.

CONGRESS OF INTERNATIONAL ASSOCIATION FOR THE PREVENTION OF BLINDNESS, New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, Switzerland, Secretary-General.

CONGRESS OF INTERNATIONAL SOCIETY OF SURGERY, Paris, France, May 21-22, 1954. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, General Secretary.

INTERNATIONAL CANCER CONGRESS, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

INTERNATIONAL CONFERENCE ON THROMBOSIS AND EMBOLISM, Basle, Switzerland, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

INTERNATIONAL CONGRESS OF CARDIOLOGY, Washington, D. C., and Bethesda, Md., U. S. A., Sept. 12-15, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

INTERNATIONAL CONGRESS OF CLINICAL PATHOLOGY, Washington, D. C., U. S. A., Sept. 6-10, 1954. Dr. Robert A. Moore, Washington University School of Medicine, St. Louis 10, Missouri, U. S. A., Chairman, Committee on Arrangements.

INTERNATIONAL CONGRESS ON GROUP PSYCHOTHERAPY, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

INTERNATIONAL CONGRESS OF HEMATOLOGY, Paris, Sept. 6-11, 1954. Dr. Jean Bernard, 86 rue d'Assas, Paris 6e, France, Secretary.

INTERNATIONAL CONGRESS OF HYDROCLIMATISM AND THALASSOTHERAPY, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni Venac 1, Belgrade, Yugoslavia, Secretary General.

INTERNATIONAL CONGRESS OF INDUSTRIAL MEDICINE, Naples, Italy, Sept. 13-19, 1954. Professor Scipione Caccuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

INTERNATIONAL CONGRESS OF INTERNAL MEDICINE, Stockholm, Sweden, Sept. 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, Sweden, Secretary-General.

INTERNATIONAL CONGRESS OF INTERNATIONAL COLLEGE OF SURGEONS, Sao Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago, Illinois, U. S. A., Secretary-General.

INTERNATIONAL CONGRESS ON MENTAL HEALTH, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

INTERNATIONAL CONGRESS OF NUTRITION, Amsterdam, Netherlands, Sept. 14-18, 1954. For information write: Dr. M. van Eekelen, Centraal Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel, Utrecht, Netherlands.

INTERNATIONAL CONGRESS ON OBSTETRICS AND GYNECOLOGY, Geneva, Switzerland, July 26-31, 1954. Dr H. de Watteville, Maternité Höpital Cantonal, Geneva, Switzerland, President.

INTERNATIONAL CONGRESS OF OPHTHALMOLOGY, University of Montreal and McGill University, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954. Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minnesota, U. S. A., Secretary-General.

INTERNATIONAL CONGRESS OF ORTHOPEDIC SURGERY AND TRAUMATOLOGY, Berne, Switzerland, Aug. 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

INTERNATIONAL CONGRESS OF PSYCHOLOGY, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N. J., U. S. A.

INTERNATIONAL CONGRESS FOR PSYCHOTHERAPY, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

INTERNATIONAL GERONTOLOGICAL CONGRESS, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

INTERNATIONAL POLIOMYELITIS CONGRESS, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

INTERNATIONAL SOCIETY OF BLOOD TRANSFUSION, Paris, France, Sept. 12-19. For information write: Colonel Julliard, Societe Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12e, France.

INTERNATIONAL SOCIETY FOR CELL BIOLOGY, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

INTERNATIONAL SOCIETY OF GEOGRAPHICAL PATHOLOGY, Washington, D. C., U. S. A., Sept. 6-10, 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

JOURNEES MEDICALES, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

LATIN AMERICAN CONGRESS OF OBSTETRICS AND GYNECOLOGY, Buenos Aires, Argentina, Oct. 26-31. For information write: Sociedad Argentina de Obstetricia y Ginecologia, Santa Fee 1171, Buenos Aires, Argentina, S. A.

LATIN AMERICAN CONGRESS OF OTORHINOLARYNGOLOGY, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, Caracas, Venezuela, Secretary-General.

PACIFIC SCIENCE CONGRESS, Quezon City and Manila, Philippines, Nov. 16-28. Dr. Patrocinio Valenzuela, College of Pharmacy, University of the Philippines, Quezon City, Philippines, Secretary-General.

PAN AMERICAN CONGRESS OF OTORHINOLARYNGOLOGY AND BRONCHOESOPHAGOLOGY, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

PAN AMERICAN MEDICAL ASSOCIATION, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.

PERSIAN GULF MEDICAL SOCIETY, Dhahran, Saudi Arabia, Dec. 7-8. Dr. N. J. Conan Jr., Department of Internal Medicine, Arabian American Oil Company, Dhahran, Saudi Arabia, Secretary.

SECTIONAL MEETING, AMERICAN COLLEGE OF SURGEONS, London, England, May 17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11, Ill., U. S. A., Secretary.

SOUTH AMERICAN CONGRESS OF ANGIOLOGY, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

WORLD CONGRESS OF INTERNATIONAL SOCIETY FOR THE WELFARE OF CRIPPLES, The Hague, Netherlands, Sept. 13-17, 1954. For information write: D. C. Schaap, Centrale Vereniging, Apeldoorschweg 51, Arnhem, Netherlands.

WORLD FEDERATION OF OCCUPATIONAL THERAPISTS, Edinburgh, Scotland, August 17, 1954.

EXAMINATIONS AND LICENSURE

BOARDS OF MEDICAL EXAMINERS

ALABAMA: *Examination.* Montgomery, June 22-24, 1954. Sec., Dr. D. G. Gill, 537 Dexter Ave., Montgomery.

ARIZONA:* *Examination.* Phoenix, Oct. 22-23. *Endorsement.* Phoenix, Oct. 24. Executive Secretary, Mr. Robert Carpenter, 401 Security Bldg., Phoenix.

ARKANSAS:* *Examination.* Little Rock, Nov. 5-6. Sec., Dr. Joe Verser, Harrisburg.

COLORADO:* *Examination.* Denver, Dec. 15-16. Final date for filing application is Nov. 14. Executive Secretary, Miss Beulah H. Hudgens, 831 Republic Bldg., Denver 2.

CONNECTICUT:* *Regular. Examination.* New Haven, Nov. 10-11. Reciprocity actions are taken continuously. Secretary to the Board, Dr. Creighton Barker, 160 St. Ronan St., New Haven. *Homeopathic.* Derby, Nov. 10-11. Sec., Dr. Donald A. Davis, 38 Elizabeth St., Derby.

DELAWARE: Dover, Jan. 12-14, 1954. Sec., Dr. Joseph S. McDaniel, 229 South State St., Dover.

FLORIDA:* *Examination.* Jacksonville, Nov 22-24. Sec., Dr. Homer L. Pearson, 901 N.W. 17th St., Miami 36.

GUAM: The Commission on Licensure will meet whenever a candidate appears or submits his credentials. Director of Medical Services, Guam Memorial Hospital, Agana.

HAWAII: Honolulu, Jan. 11-14. *Examination.* Sec., Dr. I. L. Tilden, 1020 Kapiolani St., Honolulu.

IDAHO: Boise, Jan. 11-13, 1954. Executive Secretary, Mr. Armand L. Bird, 364 Sonna Bldg., Boise.

IOWA:* *Examination.* Des Moines, Dec. 7-9. Sec., Dr. M. A. Royal, 506 Fleming Bldg., Des Moines.

KANSAS: Topeka, Dec. 9-10. Sec., Dr. O. W. Davidson, 864 New Brotherhood Bldg., Kansas City.

KENTUCKY: *Examination.* Louisville, Dec. 7-9. Sec., Dr. Bruce Underwood, 620 S. 3rd St., Louisville.

MAINE: Portland, Nov. 12-13. Sec., Dr. Adam P. Leighton, 192 State Street, Portland.

MARYLAND: *Examination.* Baltimore, Dec. 8-11. Sec., Dr. Lewis P. Gundry, 1215 Cathedral St., Baltimore 1.

MINNESOTA:* Minneapolis, Oct. 20-22. Sec., Dr. E. M. Jones, 230 Lowry Medical Arts Bldg., St. Paul 2.

MISSISSIPPI: *Reciprocity.* Jackson, December. Assistant Secretary, Dr. R. Whitfield, Old Capitol, Jackson 113.

MISSOURI: Kansas City, Oct. 22-24. Ex. Sec., Mr. John A. Hailey, Box 4, State Capitol Bldg., Jefferson City.

NEBRASKA:* *Examination.* Omaha, June 1954. Director, Mr. Husted K. Watson, 1009 State Capitol Bldg., Lincoln.

NEW JERSEY: *Examination.* Trenton, Oct. 20-23. Sec., Dr. E. S. Hallinger, 28 W. State St., Trenton.

NORTH DAKOTA: *Examination.* Grand Forks, Jan. 6-9, 1954. *Reciprocity.* Grand Forks, Jan. 9. Sec., Dr. C. J. Glaspel, Grafton.

OHIO: *Examination.* Columbus, Dec. 17-19. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus 15.

OKLAHOMA:* *Examination.* Oklahoma City, June 9-10. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

PENNSYLVANIA: *Examination.* Philadelphia, January 1954. Acting Secretary, Mrs. Margaret G. Steiner, Box 911, Harrisburg.

SOUTH DAKOTA:* *Examination.* Sioux Falls, Jan. 19-20, 1954. Reciprocity can be obtained at any time between meetings of board. Executive Secretary, Mr. John C. Foster, 300 First National Bank Bldg., Sioux Falls.

TEXAS: Fort Worth, Nov. 12-14. Reciprocity applicants must be completed 30 days prior to the meeting date. Sec., Dr. M. H. Crabb, 1714 Medical Arts Bldg., Fort Worth 2.

UTAH: *Examination and Reciprocity.* Salt Lake City, Nov. 17. Director, Mr. Frank E. Lees, 314 State Capitol, Salt Lake City 1.

VERMONT: *Examination.* Burlington, Feb. 1954. Sec., Dr. F. J. Lawliss, Richford.

VIRGINIA: *Examination.* Richmond, Dec. 3-5. *Reciprocity.* Richmond, Dec. 2. Address: Board of Medical Examiners, 631 First St. S.W., Roanoke.

VIRGIN ISLANDS: *Examination.* Charlotte Amalie, Nov. 11-12. Sec., Dr. Earle M. Rice, Box 90, St. Thomas.

WEST VIRGINIA: Charleston, Oct. 19. Sec., Dr. N. H. Dyer, State Office Bldg., Charleston 5.

WISCONSIN:* *Reciprocity.* Madison, October 23. *Examination and Reciprocity.* Madison, Jan. 12-14, 1954. Sec., Dr. A. G. Koehler, 46 Washington Blvd., Oshkosh.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

ALASKA: On application. Juneau or other towns in Territory as decided by Board. *Reciprocity.* On application. Sec., Dr. C. Earl Albrecht, Box 1931, Juneau.

FLORIDA: *Examination.* Gainesville, Nov. 7. Sec., Mr. M. W. Emmel, Box 340, University of Florida, Gainesville.

OKLAHOMA: *Examination.* Oklahoma City, April 16-17. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

OREGON: *Examination.* Portland, Dec. 5. Sec., Dr. Charles D. Byrne, University of Oregon, Eugene. (Examinations during 1954 will be held in Portland on March 6, June 5, Sept. 11 and Dec. 4.)

SOUTH DAKOTA: *Examination.* Vermillion, Dec. 4-5. Sec., Dr. Gregg M. Evans, 310 E. 15th St., Yankton.

WISCONSIN: *Examination.* Milwaukee, Dec. 5. Final date for filing application is Nov. 27. Madison, April 3. Final date for filing application is March 26. Sec., Dr. W. H. Barber, 621 Ransom St., Ripon.

DEATHS

Jegi, Henry A. ✠ Galesville, Wis.; born in Arcadia, April 16, 1873; College of Physicians and Surgeons of Chicago, 1896; one of the founders in 1904 of the Trempealeau County Medical Society and at various times held all the offices of the organization; for three terms served as councilor of the seventh district of the state medical society and in 1925 was its vice-president; for 20 years a member of the board of directors of the Wisconsin Anti-Tuberculosis Association; at the time of his death was a member of the state senior council of the organization; in 1948 *The Crusader*, official publication of the Wisconsin Anti-Tuberculosis Association, dedicated an issue to him as the "typical family doctor"; for 36 years president of the board of education and for one term president of the village board; a member of the board of directors of the Bank of Galesville; died June 27, aged 80, of coronary insufficiency.

McQuade, Edwin Leonard, Jensen Beach, Fla.; born in St. John, N. B., Canada, Oct. 7, 1902; Dalhousie University Faculty of Medicine, Halifax, N. S., Canada, 1927; formerly instructor of epidemiology at Johns Hopkins University School of Medicine, Baltimore; at one time associate professor of public health, University of Virginia Department of Medicine in Charlottesville; served as health officer of Henrico County, Va., Charlottesville and Albemarle County, Va., and director of the bureau of rural health in the state health department of Virginia; for a short time member of the bureau of epidemiology state department of health of Michigan; died in Martin County Hospital, Stuart, July 21, aged 50, of myocardial infarction.

Highsmith, Emmett Dewitt ✠ Atlanta, Ga.; Atlanta College of Physicians and Surgeons, 1906; fellow of the American College of Surgeons; formerly on the faculty of Emory University School of Medicine; a marble bust of him, unveiled in 1933, was presented to him by the railway department of the Georgia Power Company, of which he was physician and surgeon for many years; affiliated with Wesley Memorial Hospital, Grady Memorial Hospital, Henrietta Egleston Hospital for Children, Crawford W. Long Memorial Hospital, and the Georgia Baptist Hospital, where he died Aug. 11, aged 83, of arteriosclerosis.

Steiner, Charles Albert ✠ Bryn Mawr, Pa.; born in Altoona, Pa., June 19, 1910; Temple University School of Medicine, Philadelphia, 1935; clinical assistant professor of surgery at Woman's Medical College of Pennsylvania, Philadelphia; specialist certified by the American Board of Surgery; member of the American Association for the Surgery of Trauma; fellow of the International College of Surgeons and the American College of Surgeons; affiliated with Delaware County Hospital in Drexel Hill and Bryn Mawr Hospital; died in Jefferson Hospital, Philadelphia, Sept. 4, aged 43, of bleeding duodenal ulcer and pulmonary tuberculosis.

Hoshall, Frank Adelbert ✠ Charleston, S. C.,; born in Franklin, Okla., July 13, 1903; University of Oklahoma School of Medicine, Oklahoma City, 1930; professor of orthopedic surgery at the Medical College of the State of South Carolina; specialist certified by the American Board of Orthopaedic Surgery; member of the Southeastern Surgical Congress and the American Academy of Orthopaedic Surgeons; fellow of the American College of Surgeons; affiliated with Roper Hospital, Baker Memorial Sanatorium, and St. Francis Xavier Infirmary; died in Hot Springs, Va., July 2, aged 49, of coronary occlusion.

Dintenfass, Henry ✠ Philadelphia; born in 1885; University of Pennsylvania Department of Medicine, Philadelphia, 1905; associate professor of otology at the Medico-Chirurgical College, Graduate School of Medicine, University of Pennsylvania; specialist certified by the American Board of Otolaryngology; member of the American Academy of Ophthalmology and Otolaryngology and the American Laryngological, Rhinological and Otological Society; fellow of the American College of Surgeons; affiliated with the Skin and Cancer Hospital; died Aug. 25, aged 68.

Bowman, Earle Ledbetter ✠ Lumberton, N. C.; Medical College of Virginia, Richmond, 1914; served as chairman of the school board; for many years chief of staff of Robeson County Memorial Hospital; died July 18, aged 62, of myocardial infarction, following coronary occlusion.

Chaloupka, Arthur James ✠ Chicago; Northwestern University Medical School, Chicago, 1920; served during World War I; affiliated with the Ravenswood Hospital, where he died Sept. 3, aged 59, of congestive heart failure and aortic stenosis.

Cheifetz, Irving ✠ New York City; Long Island College Hospital, Brooklyn, 1930; member of the Bronx Tuberculosis and Health Committee and American Trudeau Society; fellow of the American College of Chest Physicians; affiliated with Bronx and Morrisania hospitals and Seton Hospital, where he died July 13, aged 49, of acute coronary occlusion.

Chesner, William Anthony ✠ Trenton, N. J.; Georgetown University School of Medicine, Washington, D. C., 1931; affiliated with St. Francis Hospital; died Aug. 27, aged 48, of coronary occlusion.

Couric, Edmonson Shorter ✠ Miami, Fla.; Medical College of Alabama, Mobile, 1913; member of the American Academy of General Practice; for many years on the staff of the Jackson Memorial Hospital; one of the founders of the North Shore Hospital, where he died Aug. 22, aged 62, of acute coronary thrombosis.

Dahl, Gerhard A. ✠ Mankato, Minn.; the Hahnemann Medical College and Hospital, Chicago, 1897; died in St. Joseph Hospital July 15, aged 81.

Dodson, Ross ✠ Huntington, W. Va.; University of Louisville (Ky.) Medical Department, 1911; member of the American Psychiatric Association; formerly affiliated with the Veterans Administration; died in Veterans Administration Hospital in Chillicothe, Ohio, July 1, aged 70.

Eaton, Robert Lee, Anna Maria, Fla.; University of Nashville (Tenn.) Medical Department, 1899; died July 4, aged 85, of acute coronary thrombosis.

Eaton, William Oliver, Proctorville, Ohio; Medical College of Ohio, Cincinnati, 1894; died in Lexington, Ky., Aug. 19, aged 83, of cardiovascular collapse.

Falk, Victor Sofus, Madison, Wis.; Rush Medical College, Chicago, 1913; contract surgeon in World War I; captain in the Medical Corps of the Army during World War II; affiliated with Mendota State Hospital; died June 18, aged 64, of lymphosarcoma of the lung.

Farrell, Edgar Atlas Holt ✠ Haddonfield, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1929; served during World War II; director of health, Haddonfield schools; died in the Hospital of the University of Pennsylvania in Philadelphia Sept. 3, aged 49, of cerebral hemorrhage.

Fitzpatrick, Charles Mooney ✠ Salina, Kan.; University Medical College of Kansas City, Mo., 1903; member of the Radiological Society of North America; served during World War I; affiliated with St. John's Hospital, where he died June 26, aged 74, of pulmonary edema and carcinoma of the esophagus with metastases.

Fleming, Albert ✠ Folkston, Ga.; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1894; died in St. Vincent's Hospital, Jacksonville, Fla., July 7, aged 85.

Flynn, Joseph P., Minneapolis; Rush Medical College, Chicago, 1900; affiliated with St. Mary's Hospital; died Aug. 21, aged 79, of coronary thrombosis.

✠ Indicates Member of the American Medical Association.

Greulich, Cornelius D., Milwaukee; Milwaukee Medical College, 1908; died May 17, aged 70, of carcinoma of the sigmoid colon with metastasis.

Griffin, Meredith T., Dallas, Texas; St. Louis College of Physicians and Surgeons, 1893; served as county judge of Upton County; died July 30, aged 83, of cerebral hemorrhage.

Grussner, Albert ✦ Schenectady, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1904; fellow of the American College of Surgeons; affiliated with Benedict Memorial Hospital in Ballston Spa, Ellis, and St. Clare's hospitals; died in Lake George July 10, aged 71, of carcinoma of the intestine.

Hammers, James S., ✦ Lancaster, Pa.; Medico-Chirurgical College of Philadelphia, 1904; specialist certified by the American Board of Psychiatry and Neurology; member of the American Psychiatric Association; medical director of the Lancaster County Hospital; consultant in psychiatry, Lancaster General Hospital; neuropsychiatrist, St. Joseph's Hospital, where he died Aug. 30, aged 74, of bronchopneumonia and diabetes mellitus.

Hershberger, Lloyd Ralph ✦ Los Angeles; Northwestern University Medical School, Chicago, 1932; assistant clinical professor of medicine at College of Medical Evangelists; specialist certified by the American Board of Internal Medicine; served during World War II; on the staffs of the Hospital of the Good Samaritan and California Lutheran Hospital; died June 14, aged 47.

Hilliard, Alexander W. ✦ Chattanooga, Tenn.; University of Nashville Medical Department, 1898; affiliated with Baroness Erlanger Hospital; died July 3, aged 82, of coronary thrombosis.

Hoffmann, Alfred Anthony ✦ Waterloo, Iowa; John A. Creighton Medical College, Omaha, 1912; past president of the Black Hawk County Medical Society and the Waterloo Medical Association; served during World War I; past president and charter member of the staff of St. Francis Hospital; director of People's Savings Bank; died in Pequot Lake, Minn., Aug. 20, aged 62, of heart disease.

Houston, Hugh, West Fork, Ark.; Birmingham Medical College, 1910; died June 30, aged 80.

Hultkrans, Joel Carl ✦ Minneapolis; University of Minnesota Medical School, Minneapolis, 1921; member of the American Psychiatric Association and the Central Neuropsychiatric Association; member of the House of Delegates of the American Medical Association in 1948; died in St. Barnabas Hospital July 27, aged 59, of uremia, hypertension, and cerebral thrombosis.

Hunt, Reuben Heywood ✦ Lieutenant Commander, U. S. Navy, retired, Lafayette, Calif.; Cooper Medical College, San Francisco, 1905; entered the U. S. Navy June 28, 1921; retired July 1, 1942; died Aug. 28, aged 73, of hypertensive cardiovascular disease.

Hunt, Warren Coe, Klamath Falls, Ore.; Starling-Ohio Medical College, Columbus, 1911; fellow of the American College of Surgeons; died Aug. 10, aged 63, of coronary occlusion.

Iwersen, John Christian, Omaha; University of Nebraska College of Medicine, Omaha, 1903; served as assistant professor of pediatrics at Creighton University School of Medicine; affiliated with St. Joseph's, St. Catherine's, and Children's Memorial hospitals; for many years medical director of St. James Orphanage; died Aug. 19, aged 73, of coronary disease.

Karcher, James Franklin ✦ Mount Lebanon, Pa.; University of Pittsburgh School of Medicine, 1925; formerly on the faculty of his alma mater; member of the American Trudeau Society; for many years medical missionary in China; on the staff of the Southside Hospital; died July 7, aged 59, of coronary thrombosis and cancer of the stomach.

Kaufman, Paul Myron ✦ Youngstown, Ohio; Rush Medical College, Chicago, 1924; fellow of the American College of Surgeons; served during World War II and received two citations for his work in the Army Medical Corps overseas; fellow of the American College of Surgeons; affiliated with Youngstown Hospital and Mahoning Tuberculosis Sanatorium; died Aug. 23, aged 55, of coronary thrombosis.

Kimmel, Benjamin Bruce, East Cleveland, Ohio; Cleveland Homeopathic Medical College, 1898; formerly on the faculty of his alma mater; fellow of the American College of Surgeons; served overseas during World War I; at different times a member of the staff of Glenville and Huron Road hospitals in Cleveland, both of which he served as president; died in Cleveland Aug. 15, aged 83.

Kortsch, Ferdinand Paul ✦ Prior Lake, Minn.; University of Colorado School of Medicine, Denver, 1935; member of the American Academy of General Practice; died July 15, aged 49.

Krzysko, Stanley Leon ✦ Milwaukee; Northwestern University Medical School, Chicago, 1911; formerly secretary of the Medical Society of Milwaukee County; served on the draft board during World War I; member and at one time chief of staff at St. Luke's Hospital, where he died June 26, aged 70, of rupture of aneurysm of abdominal aorta.

Kummel, Max ✦ Newark, N. J.; Long Island College Hospital, Brooklyn, 1915; also a lawyer; served during World War I; affiliated with Newark Beth Israel Hospital; died in Roseland Aug. 30, aged 63, of coronary thrombosis and arteriosclerosis.

Lacock, Lester Earle, Pittsburgh; Jefferson Medical College of Philadelphia, 1907; medical examiner for 35 years of the Metropolitan Life Insurance Company; staff member of the Allegheny General Hospital; died Aug. 15 aged 70, of coronary insufficiency.

Lally, Francis Henry ✦ Milford, Mass.; Dartmouth Medical School, Hanover, N. H., 1902; served as school physician; on the staff of the Milford Hospital; died in Harwich Aug. 4, aged 78, of coronary occlusion.

Lawson, David J. ✦ Mount Vernon, Wash.; University of Oregon Medical School, Portland, 1925; certified by the National Board of Medical Examiners; affiliated with Rowley General Hospital and Skagit General Hospital; died July 25, aged 55, of coronary occlusion.

McCarthy, William Reginald ✦ St. Paul; Milwaukee Medical College, 1911; past president of Ramsey County Medical Society; fellow of the American College of Surgeons; served as vice-president of the Minnesota State Medical Association; member of the staffs of the Charles T. Miller and St. Luke's hospitals; died in Van Nuys, Calif.; June 22, aged 66, of bronchiogenic carcinoma.

McDonald, Dan Moore ✦ Akron, Ohio; Starling Medical College, Columbus, 1902; formerly director of medical department of Firestone Tire and Rubber Company; on the staff of the City Hospital; died Aug. 5, aged 78, of cardiovascular disease and cerebral arteriosclerosis.

McGregor, Lorenzo Watson ✦ St. George, Utah; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1935; fellow of the American College of Surgeons; specialist certified by the American Board of Surgery; affiliated with D. A. McGregor Hospital; died Aug. 26, aged 45, of acute cardiac dilatation.

McQueen, Arthur Frederick, Amherst, Ohio; University of Wooster Medical Department, Cleveland, 1911; served during World War I; for four years on the school board; for many years member of the city council; chosen "Man of the Year" for 1952 by the Amherst Chamber of Commerce; affiliated with St. Joseph's Hospital in Lorain and the Amherst Hospital; died July 18, aged 69, of cerebral hemorrhage.

Marshall, Benjamin Maxwell ✦ Eureka, Calif.; College of Physicians and Surgeons of San Francisco, 1902; served as chairman of the board of education; affiliated with General Hospital, where he died Aug. 10, aged 77, of arteriosclerosis.

Mitchell, James Henry ✦ Pittsburg, Texas; University of Louisville (Ky.) Medical Department, 1894; served as county health officer and Selective Service examiner; president of the Pittsburg Medical and Surgical Hospital; died April 3, aged 81, of coronary occlusion.

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Moore, Thomas Kenney, Sharon Center, Ohio; Jefferson Medical College of Philadelphia, 1899; past president of the Summit County Medical Society; affiliated with Peoples and Children's hospitals and on the honorary staff of the City Hospital in Akron, where he died Aug. 8, aged 80, of carcinoma of the stomach.

Morris, Zenella Elizabeth Nelson ✦ Stockport, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1894; past president of the Van Buren County Medical Society; died in Keosauqua June 15, aged 89, of cerebral thrombosis.

Munn, Wayne Alonzo ✦ Janesville, Wis.; Northwestern University Medical School, Chicago, 1906; preceptor, University of Wisconsin, Madison from 1930 to 1952; an Associate Fellow of the American Medical Association; fellow of the American College of Surgeons; past president of the Rock County Medical Society; served during World War I; affiliated with Mercy Hospital, where he was president of the staff; died Aug. 8, aged 71, of coronary thrombosis.

Neel, William Hal ✦ Bowling Green, Ky.; Vanderbilt University School of Medicine, Nashville, Tenn., 1913; served on the staff of the City Hospital, where he died July 28, aged 63, of duodenal ulcer.

Neff, Charles Otis ✦ Louisville, Ky.; Southwestern Homeopathic Medical College and Hospital, Louisville, 1905; for two terms president of the Kentucky State Medical Association; served during World War I; died July 20, aged 75.

Newcomb, James H., Richton, Miss.; Atlanta School of Medicine, 1912; past president of the South Mississippi Medical Society; colonel on the staff of Gov. Hugh White at the time of his death; died Aug. 30, aged 70, of a heart attack.

Nicholls, James William ✦ Helena, Ark.; Chattanooga (Tenn.) Medical College, 1902; served as vice-president of the Phillips County Medical Society; on the staff of the Helena Hospital; died July 7, aged 70, of heart failure.

Nolen, Beverly Toon ✦ Franklin, Tenn.; Vanderbilt University School of Medicine, Nashville, 1906; served during World War I; formerly health officer; died in St. Thomas Hospital, Nashville, Aug. 7, aged 72, of coronary thrombosis.

Ogden, Leon Gray ✦ Holley, N. Y.; Albany (N. Y.) Medical College, 1899; past president of the Orleans County Medical Society; formerly county coroner; served as health officer; died in North Bay, Ontario, Canada, Aug. 22, aged 78, of coronary thrombosis.

Ognibene, Frank Anthony ✦ Fredonia, N. Y.; University of Buffalo School of Medicine, 1914; member of the American Society of Anesthesiologists; affiliated with Brook Memorial Hospital in Dunkirk; died July 28, aged 61, of coronary thrombosis.

Parham, Ben Otis, New Orleans; Tulane University of Louisiana School of Medicine, New Orleans, 1948; resident in neurosurgery at the Ochsner Foundation Hospital, where he died Aug. 22, aged 27.

Perrin, Stuart Henry ✦ Superior, Wis.; University of Wisconsin Medical School, Madison, 1928; died at Lake Nebagamon May 16, aged 50, of coronary thrombosis.

Peterson, Charles Frederick ✦ Independence, Wis.; Northwestern University Medical School, Chicago, 1907; in July 1952 the Independence Lions Club held a "Dr. Peterson Day" to mark his long years of service; for 36 years member of the school board; died June 30, aged 82, of chronic myocarditis.

Petzke, Ernest A. ✦ Hixton, Wis.; Northwestern University Medical School, Chicago, 1896; died July 7, aged 81, of a heart attack.

Phillips, Bruce Gretton, Bay Pines, Fla.; University and Bellevue Hospital Medical College, New York, 1899; died July 11, aged 79, of bronchopneumonia.

Pinkerton, William Alfred ✦ North Garden, Va.; University of Virginia Department of Medicine, Charlottesville, 1900; died in Charlottesville July 8, aged 76, of congestive heart failure.

Privka, Arkadijs Aleksandrs, St. Paul, Minn.; Latvijas Universitäte Medicinas Fakultate, Riga, 1936; died in Ancker Hospital July 14, aged 46, of carcinoma of the rectosigmoid, following resection.

Putney, Robert Hubbard ✦ Elm City, N. C.; Medical College of Virginia, Richmond, 1914; died in Park View Hospital in Rocky Mount July 9, aged 63, of pneumonia.

Quinn, Patrick John ✦ Rochester, N. Y.; Queen's University Faculty of Medicine, Kingston, Ontario, Canada, 1908; on the staff of St. Mary's Hospital; died July 27, aged 70, of carcinoma of the tongue.

Radford, Arthur Franklin, Kansas City, Mo.; Meharry Medical College, Nashville, Tenn., 1914; died in the General Hospital July 8, aged 63.

Ranson, J. Lester, Sr. ✦ Charlotte, N. C.; North Carolina Medical College, Charlotte, 1911; also a graduate in pharmacy; served as secretary and president of the Mecklenburg County Medical Society; affiliated with Presbyterian Hospital, where he died Aug. 21, aged 69, of coronary thrombosis.

Remington, Alvah Childs ✦ Rochester, N. Y.; University of Buffalo School of Medicine, 1897; consulting physician at the Rochester State Hospital; affiliated with Monroe County Infirmary and St. Mary's Hospital, where he died Aug. 17, aged 81, of cerebral sclerosis and fracture of humerus due to an accidental fall.

Robertson, Beridge Ruth, Demarest, N. J.; Columbia University College of Physicians and Surgeons, New York, 1941; associate member of the American Medical Association; died Sept. 7, aged 35, of cancer.

Robinson, Shelby Louise Boynton ✦ Los Angeles; Meharry Medical College, Nashville, Tenn., 1909; died Aug. 18, aged 64, of terminal pneumonia and adenocarcinoma of the breast.

Ross, Emmy Marie Sophie ✦ St. Louis; Kaiser-Wilhelms-Universität Medizinische Fakultät, Strassburg, 1918; affiliated with Christian Hospital, De Paul Hospital, Missouri Baptist Hospital, and the Deaconess Hospital, where she died July 29, aged 63, of tumor of the brain.

Sancetta, Biagis, Cleveland; Regia Università degli Studi di Palermo Facolta di Medicina e Chirurgia, Italy, 1902; died in the University Hospitals July 13, aged 75.

Savitsky, Nathan ✦ New York City; University and Bellevue Hospital Medical College, New York City, 1927; specialist certified by the American Board of Psychiatry and Neurology; member of the American Neurological Association, American Psychiatric Association, and the Association for Research in Nervous and Mental Diseases; past president of the Bronx County Neurological Society and the Hebrew Medical Society; affiliated with Lebanon, Morrisania, and Seton hospitals; died in Mount Sinai Hospital Sept. 4, aged 50.

Shelton, Harold Jordan ✦ Webster Groves, Mo.; St. Louis University School of Medicine, 1934; member of the American Academy of General Practice; fellow of the American College of Surgeons; affiliated with St. Anthony's Hospital, St. Mary's Group of Hospitals, and Alexian Brothers Hospital in St. Louis, where he died July 4, aged 45.

Smith, James Monroe ✦ Cochran, Ga.; Atlanta School of Medicine, 1911; died in Macon July 31, aged 77, of cerebral hemorrhage and carcinoma of the bladder.

Smythe, Jay Bingham, Holton, Kan.; Hahnemann Medical College of the Kansas City University, Kansas City, 1901; died in Holton Hospital July 13, aged 75, of congestive heart failure.

Sweet, Grover Cleveland, Rocky Hill, Conn.; College of Physicians and Surgeons, Baltimore, 1912; administrator of the State of Connecticut Veterans Home and Hospital, where he died Aug. 15, aged 67, of coronary thrombosis.

Thompson, Noah Howard ✦ Bedford, Va.; Rush Medical College, Chicago, 1894; member of the Indiana State Medical Association; died June 28, aged 81, of myocardial failure.

Tinder, J. Stanley, Parsons, Kan.; Chicago Physio-Medical Institute, 1898; died June 25, aged 81, of coronary occlusion.

Torpy, Thomas William ✦ Omaha; John A. Creighton Medical College, 1919; formerly assistant professor of surgery at

his alma mater; member of the American Academy of General Practice; affiliated with St. Joseph's Hospital and St. Catherine's Hospital, where he died July 9, aged 60, of bronchogenic carcinoma.

Turner, Henry Cromwell ✦ West Covina, Calif.; University of Virginia Department of Medicine, Charlottesville, 1927; member of the Idaho State Medical Association; specialist certified by the American Board of Radiology; formerly practiced in Pocatello, Idaho, where he was on the staff of St. Anthony Mercy Hospital and Pocatello General Hospital; died in Covina July 19, aged 54, of coronary occlusion.

Utley, Vernon T., Parkin, Ark.; University of Arkansas School of Medicine, Little Rock, 1905; for many years county health officer; died in Cross County Hospital, Wynne, Aug. 14, aged 78, of heart disease.

Wade, Edward H., Augusta, Ill.; Eclectic Medical Institute, Cincinnati, 1903; died in St. Elizabeth's Hospital, Hannibal, Mo., July 3, aged 76.

Ward, Harry Norbert ✦ Hamilton, Ohio; University of Cincinnati College of Medicine, 1925; affiliated with Mercy Hospital and Fort Hamilton Hospital, where he died Aug. 22, aged 52, of coronary occlusion.

Webb, Roy, Delray Beach, Fla.; Vanderbilt University School of Medicine, Nashville, Tenn., 1909; died July 18, aged 69, in coma due to hepatic cirrhosis.

Whelan, Edward James ✦ Savannah, Ga.; Georgetown University School of Medicine, Washington, D. C., 1924; fellow of the American College of Surgeons; served as president and chief of staff of St. Joseph's Hospital; affiliated with Warren A. Candler Hospital and Oglethorpe Sanatorium; died July 10, aged 53, of angina pectoris.

White, Eston Delaney ✦ Miami, Fla.; University of Tennessee College of Medicine, Memphis, 1941; died July 28, aged 47, of coronary thrombosis.

White, Frank Melvin, Miles, Va.; New York Homeopathic Medical College and Flower Hospital, New York, 1915; died July 30, aged 73, of cerebral embolism.

Williams, Samuel Hanson, Crofton, Ky.; University of Tennessee Medical Department, Nashville, Tenn., 1894; president of the Hopkinsville Milling Company; died in Jennie Stuart Hospital, Hopkinsville, Aug. 18, aged 82, of arteriosclerotic cardiovascular and renal disease.

Winter, Louis Carl ✦ Wilton Junction, Iowa; State University of Iowa College of Homeopathic Medicine, Iowa City, 1901; died in the Bellevue Hospital, Muscatine, May 10, aged 80, of cerebral thrombosis and arteriosclerosis.

Wollin, Maurice, New York City; Fordham University School of Medicine, New York, 1918; served during World War I; for many years school physician for the city board of education; died July 14, aged 62, of coronary occlusion.

DIED WHILE IN MILITARY SERVICE

Cox, Wesley Cintra ✦ Col. U. S. Army, retired; born in Brooklyn, April 21, 1891; Columbia University College of Physicians and Surgeons, New York, 1916; subsequently took graduate training at the Army Medical School, Washington, D. C., and Johns Hopkins University, Baltimore; specialist certified by the American Board of Preventive Medicine and Public Health; fellow of the American College of Physicians, American Public Health Association, and the American Geriatrics Association; member of the American Society of Tropical Medicine and Hygiene, Industrial Medical Association, American Association of Industrial Hygienists, and the Association of Military Surgeons of the United States; began his Army career in 1917 when he joined the medical corps reserve as first lieutenant; the following year was commissioned first lieutenant in the regular Army; during his 36 years of service held posts as chief of the laboratory, Camp Jackson, S. C., in 1921, epidemiologist, Fort Dix, N. J., 1921-1922, serologist and chief, laboratory, Eighth Army Area, 1926-1931, chief, laboratory, and medical inspector, Fort Leavenworth, Kan., 1931-1934; was bacteriologist and instructor, 1917-1921, and bacteriologist, serologist, and instructor, 1925-1926 at the Army Medical School, Washington, D. C., and bacteriologist and instructor, Walter Reed General Hospital, 1934-1937; served in the Panama Canal Department as bacteriologist in 1922, leaving in 1925 and returning in 1939 to spend seven more years in the Canal Zone; served as assistant surgeon, headquarters, Caribbean Command, 1946; retired April 30, 1951; awarded the Legion of Merit, the Army Commendation ribbon, and by the President of Panama, the Order of Vasco Nuñez de Balboa, Grade of Commander; was commanding officer of the Army Environmental Health Laboratory at the Army Chemical Center, Edgewood, Md.; died in Richmond, Va., May 22, while serving on active duty, aged 62, of cerebral hemorrhage.

Collins, Leonard James Jr. ✦ Sherman, Texas; born in Fort Worth, Texas, April 21, 1924; Southwestern Medical School of the University of Texas, Dallas, 1947; interned at the Baylor University Hospital in Dallas; formerly a resident in internal medicine at Grady Memorial Hospital in Atlanta, Ga.; during his active naval career served at the Naval Hospital, Corpus Christi, aboard the USS General M. Randall, and in July of 1951 was released to inactive duty; volunteered for duty, and was ordered into active military service in May, 1952, serving as a lieutenant in the U. S. Naval Reserve; reported to the Naval Hospital, Jacksonville, Fla., on July 15, 1952, and was serving at this hospital at the time of his death June 6, aged 29, of pulmonary edema and cardiac arrest.

Rhamy, Richard Alan, Sidney, Ohio; Indiana University School of Medicine, Indianapolis, 1951; interned at the Cincinnati General Hospital; served a residency at the Veterans Administration Center in Dayton; entered the U. S. Air Force as a first lieutenant April 19, 1953; died in the U. S. Air Force School of Aviation Medicine at Randolph Air Force Base, Texas, July 1, aged 24, of traumatic bilateral pneumothorax with aeroembolism.

Keane, James Patrick ✦ Fairview Park, Ohio; St. Louis University School of Medicine, 1948; interned at St. John's Hospital in Cleveland, where he served a residency; formerly a fellow in internal medicine at the Cleveland Clinic Hospital; affiliated with Fairview Park Hospital in Cleveland; first lieutenant in the air force at Lockbourne Air Force Base; killed in an airplane accident at North Olmstead, July 30, aged 29.

Lutes, Lester L., ✦ Major, M.C., U. S. Air Force, Elizabethton, Tenn.; University of Tennessee College of Medicine, Memphis, 1941; interned at the California Hospital in Los Angeles; served as health director of Carter, Unicoi, and Johnston counties; flight surgeon stationed in England; killed in an automobile accident near Cheltenham, England, April 14, aged 46.

Owen, William Hamilton, Detroit, Mich.; Wayne University College of Medicine, Detroit, 1952; interned at the Walter Reed Army Hospital no. 12 in Washington, D. C.; first lieutenant, medical corps, U. S. Army Reserve; died in Ann Arbor, July 27, aged 27, of poliomyelitis.

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GOVERNMENT SERVICES

ARMY

General Denit Retires.—Major Gen. Guy B. Denit, former surgeon of the U. S. Army in Europe, retired on Sept. 30 after more than 38 years of active duty. Gen. Denit was assistant surgeon of the 29th Division in Europe during World War I and was chief of the planning division of the Surgeon General's Office from 1928 to 1932. During World War II, he was chief surgeon of the Atlantic Base section in Casablanca and, later, chief surgeon of American forces in the Pacific theater. During 1946 and 1947 he was chief of the plans and operations division of the Surgeon General's Office. He has been chief of medical services for the European Command since 1948. An honor graduate of the Army Medical School and the Medical Field Service School, General Denit also attended the Command and General Staff School and the Army War College. In 1947 the Medical College of Virginia conferred on him the honorary degree of Doctor of Science. He has been awarded the Distinguished Service medal, the Legion of Merit, the Bronze star, the Army Commendation ribbon, and several campaign ribbons.

NAVY

Guest Lecture Series.—The first lecture of the 1953-1954 Guest Lecture Series, under the auspices of the Naval Medical School, Bethesda, Md., was presented Sept. 25 by Dr. Isador S. Ravdin, professor of surgery, University of Pennsylvania Medical School. The lecture was entitled "Some Problems Facing Military Medicine." Dr. Ravdin recently toured medical installations of the armed forces in the Far East. During World War II he saw service in the India-Burma-China theater of operations and advanced to the rank of brigadier general.

OFFICE OF DEFENSE MOBILIZATION

Personal.—Dr. Francis J. Braceland of Hartford, Conn., who was appointed by President Eisenhower to the National Advisory Committee of the Selective Service System, has been appointed by the Director of Defense Mobilization to the Health Resources Advisory Committee. Dr. Braceland's appointment will fill the vacancy on the two committees, the membership of which is identical, created by the resignation of Dr. James C. Sargent, Milwaukee, Wis. Dr. Sargent, who has served on the committees since their inception in 1950, has been appointed a consultant to the two groups.

PUBLIC HEALTH SERVICE

Study of Amyotrophic Lateral Sclerosis.—A major study of amyotrophic lateral sclerosis has just been initiated on Guam. This investigation, in which the Public Health Service, the Navy Bureau of Medicine and Surgery, and the Department of Interior are participating, will be headed by Dr. Leonard T. Kurland, chief epidemiologist of the Public Health Service's National Institute of Neurological Diseases and Blindness, who left for Guam this month. Information now available indicates that this crippling, fatal disease is highly prevalent on Guam.

The chances for determining the possible roles of heredity and environment in the development of amyotrophic lateral sclerosis are especially good on Guam because of the relatively fixed population.

Dr. Donald Mulder, U. S. Navy, and Drs. K. K. Waering and S. Tillema of the government of Guam will cooperate in the present study, which will go on for about two months. The research team will examine several groups of natives in addition to those presently affected with this disease. By investigating the siblings of those affected, they hope to determine why one member of the family has incurred the disorder, and others not. Examination of a random group of natives on Guam may also help isolate the special conditions that may be responsible for the disease. Finally, the research team will study the natives on a neighboring island in order to determine whether the problem is typical of Guam alone or of other areas in the Marianas as well.

VETERANS ADMINISTRATION

New Hospital Dedicated in West Haven.—Dedication ceremonies at the opening of the new 15 million dollar Veterans Administration Hospital in West Haven, Conn., were held Sept. 13. The dedicatory address was delivered by Harvey V. Higley, newly appointed administrator of veterans' affairs, and the response was by Dr. Lewis G. Beardsley, manager of the hospital. Vice-Adm. Joel T. Boone (MC), U. S. Navy (Ret.), chief medical director of the Veterans Administration, spoke on the medical care program. The new hospital is the 47th to be completed under the construction program approved after World War II. It contains 872 beds, of which 396 are allocated to the tuberculosis unit, 332 to general medical and surgical cases, and 144 to the neuropsychiatric unit.

Personal.—Dr. Edwin J. Rose, formerly assistant director of the hospital operations service in the VA central office, Washington, D. C., became manager of the Mount Alto Veterans Hospital, Washington, D. C., Sept. 8, and Dr. Linus A. Zink, formerly manager of Mount Alto Hospital, became acting director of hospitals and clinics in the central office, a new post under the VA's reorganization.

Personal.—Dr. John N. Rich, acting director of the medical division of the New York Regional Veterans Administration office, has been named chief medical officer for the Veterans Administration regional office at Huntington, W. Va., succeeding Dr. Leo F. Steindler, who retired in February, 1953.

MISCELLANEOUS

Scientific Translations Center.—A center for photoduplicating foreign scientific translations has been established by the National Science Foundation in the science division of the Library of Congress. Partial support for the project was contributed by the U. S. Atomic Energy Commission. Establishment of the translations center is part of a foundation program to assist American scientists keep informed about scientific progress in other countries. Scientific translations will be collected from many sources, including government agencies, scientific societies, industrial laboratories, and universities. Initially, the center will put major emphasis on translations from Russian scientific journals, although it is hoped eventually to add material from other languages. Monthly lists of translations newly received will be issued by the Library of Congress. The monthly listings will include notices of translations that are available by direct purchase from commercial and other translating services, but the center will not supply photocopies of such material.

The price list established by the center for copies of translations is as follows: photostats or enlarged microprints, 1 to 10 pages, $1.25 and, 11 to 15 pages, $1.75; microfilms, 1 to 50 pages, $1.00. Inquiries about the new service should be addressed to the Scientific Translations Center, Science Division, Library of Congress, Washington 25, D. C.

FOREIGN LETTERS

BELGIUM

Ethics of Psychiatry and Clinical Psychology.—The Belgian Society of Mental Medicine, with Dr. Raedemaekers, president, presiding at a meeting on March 28, studied problems in ethics in psychiatry and clinical psychology. Professor Nyssen endeavored to define the boundaries between psychiatry and psychology and in so doing studied the principles that should guide collaboration between physicians and psychologists.

Psychology and psychiatry are two mutually supportive sciences, and there is, in fact, no clear-cut frontier between them. The integration of psychology into clinical practice is a fact, but collaboration between physicians and psychologists who are not physicians raises delicate professional questions. The conception of clinical psychology held by various psychiatrists and the scope accorded to it by some of them require a clarification of the respective duties and powers of the supporters of the two sciences. Obviously, when the conclusions derived from examinations carried out according to certain techniques have to be applied in the domain of medicine, the physician alone is competent. The same is true when it is a question of using supplementary measures such as narcoanalysis, suggestions, and various stimuli.

When it is necessary to collaborate in scientific research or to use special techniques to assist in establishing a diagnosis or in understanding a personality, the collaboration of psychologists who are not physicians is often fruitful. It must be remembered, however, that tests have a limited value and that, while the psychological examination may reveal details the physician was unable to detect, it is he who must always have the last word. It is not that psychologists must accept subordination, but that the extent of their collaboration must be defined. In medical clinics, this presents no difficulty. There are, however, psychologists who, though not physicians, make diagnoses and even apply treatment without medical supervision. The author earnestly desires the collaboration of psychologists, but he refuses to give them autonomy in matters connected with the art of healing. This is the attitude generally accepted in the countries of western Europe.

Anthracosilicosis.—At the last session in 1951 of the Flemish Academy of Medicine, Van Mechelen discussed anthracosilicosis in Belgium on the basis of a statistical study of 49,216 workers at work, 500 sick workers, 17,386 workers receiving invalidism pensions, and 100 workers who had died from anthracosilicosis.

He showed that 21.42% of the 49,216 workers at work (which included almost half of all underground workers) were affected by anthracosilicosis. Among these, 13.75% were slightly affected, 5.91% moderately affected, and 1.76% seriously affected. Comparison with neighboring countries shows that the situation is equally serious everywhere.

The extent of the anthracosilicosis is proportional to the number of years of underground work. It is even more closely related to the kind of work performed. Contrary to the traditionally accepted opinion, coal workers are affected earlier and more severely in Belgium than rock workers.

Tuberculosis is rare among the workers at work. Only 0.23% of those examined were found to have active tuberculosis, and only 2.26% had cicatricial tuberculosis. These figures are much lower than the national average. Of 17,386 workers receiving invalidism pensions, 2.6% had pulmonary tuberculosis. Of 500 sick workers suffering from respiratory disease, 8% had progressive pulmonary tuberculosis. The percentage dropped from 11% in the reticular stage to 6% in the stage of anthracosilicotic condensation as a result of systematic exclusion of the tuberculous patients discovered. The sputum of 33 of the 100 workers who died of anthracosilicosis contained tubercle bacilli. Tuberculosis is thus a frequent complication of the final stage of anthracosilicosis, but it does not greatly affect the duration of life.

Technical improvement in mining techniques is the principal weapon in the fight against the pneumoconioses. Statistics extending from 1946 to 1950 show that it is being applied with increasing benefit in the Belgian collieries. The use of certain new engines for the cutting of coal greatly reduces the danger of pneumoconiosis. With total mechanization, human cutters are replaced by equipment that cuts, loads, and transports the coal. Experiments have been undertaken in Belgium by the Institut d'Hygiene des Mines to improve working conditions by the use of aerosols of sodium chloride solution that agglutinate the dangerous fine dusts. In addition, two large collieries are testing use of pneumodilating aerosols administered to workers from the mine depths at the end of their shifts.

Definition of a Physician.—Before the meeting of the Belgian Society of International Medical Law on March 13, 1953, in continuation of a debate on the need for codification of international medical law, Dr. Spaey presented a proposal tending to establish a distinction, in the application of humanitarian conventions, between a doctor of medicine and a physician giving care. This conception aroused the liveliest interest among the members, and at the same time a certain number of objections. These, brought forward especially by the physicians, were based primarily on the principle of the unity of medicine and medical action. Is it desirable, or even possible, to distinguish among medical activities, taken in the broad sense, those that contribute directly and those that contribute indirectly to health? Are preventive medicine and administrative medicine not just as important from the point of view of health as curative medicine, and would it not basically disorganize health service to refuse international protection to the physician who supervises the material installation of an ambulance or the organization of an evacuation line? In any case, the choice of criteria for the distinction would be difficult and their formulation and application would have to be entrusted to professional circles. In concluding the debate, the assembly decided that the distinction proposed by Dr. Spaey deserved a thorough study.

LONDON

Teaching of General Practice.—The report of the undergraduate education committee of the foundation council of the College of General Practitioners (*Brit. M. J.* **2**:36 [July 4] 1953) points out that the student who chooses general practice requires instruction in academic medical knowledge, the application of this knowledge outside a hospital, and the doctor-patient relationship. It recalls the days of training by apprenticeship and points out that, while this system may have had its faults, "hospital consultants in those days were in close touch with general practice; many of them had been for a long time in general practice, some were still working as part-time practitioners, others were meeting practitioners frequently in consultation. Even in hospital, students at that time were taught the 'feel' of general practice . . . students now learn the science and principles of medicine without enough emphasis on their application in general practice, so that they remain unaware of the true nature of general practice and of the essential difference between the care of patients in hospital and in home surroundings. . . . The medical student is now taught almost entirely by members of hospital staffs who are specialists and who, to-day, may have had little personal experience of family doctoring; some of them do not even see patients in their homes in consultation with general practitioners. . . . Many medical students qualify to-day

The items in these letters are contributed by regular correspondents in the various foreign countries.

without having seen or spoken to a general practitioner. Some students, who might be happiest in general practice and be a powerful influence in raising its standard, deliberately avoid it, being unaware of the opportunities for good and satisfying work which it offers."

A table shows the replies to a questionnaire sent by the College of General Practitioners earlier this year to the deans of the 28 medical schools in Great Britain and Ireland. Only eight of the schools provide lectures on general practice, and two of these schools (Edinburgh and Manchester) have general practice teaching units. Fourteen schools make arrangements for students to work with general practitioners, but in four instances this is an "informal" arrangement; in two instances the length of the course is one day, while in another it is two evenings. The longest course is four weeks, and this is in only one school (Aberdeen). In one school the course concerns only obstetrics.

The committee urges that every medical school should co-opt general practitioners to its staff to teach students "certain important aspects of general practice." Such instruction can be given in a health center or a dispensary run by a medical school, or it can be organized jointly by a medical school and local general practitioners. The best time is probably at the beginning of the final year. Lectures in such a course should be given by men in active general practice, but the committee also "urge most strongly that more students should visit practitioners in their homes, in their surgeries, or on their rounds, and spend a few days with them. . . . This will give young practitioners a yardstick by which to measure all subsequent experience; in later years, either they will be proud of having done better than this first impression or they will know that they still have something to achieve."

Annual Report on Mental Hospitals.—The outstanding feature of the annual report of the Board of Control for 1952 is the persisting shortage of nurses and beds in the mental hospitals. At the end of the year, there were 149,353 patients reported to the board as under mental treatment, compared with 148,071 at the end of 1951. Of this total, 5,096 were private patients, 143,239 National Health Service patients, and 1,018 Broadmoor patients (patients detained under the acts relating to criminal lunatics). The state of overcrowding is indicated by the fact that, in 107 mental hospitals, there were "17,522 more patients than these hospitals were designed, according to prescribed standards, to receive." Of the available beds, 1,640 could not be used owing to shortage of staff. During the year, the number of trained male nurses increased from 9,156 to 9,275, but the number of trained female nurses decreased from 5,819 to 5,699. The report shows a continued decline in the incidence of tuberculosis in mental hospitals. The ratio of 6.1 cases per 1,000 patients is one of the lowest figures attained, and the death rate is now down to 2.1 per 1,000. Tuberculosis as a cause of death represents 3.2% of all deaths in mental hospitals, as compared with 2.5% of all deaths in the general population.

The steadily diminishing number of "licensed houses," privately owned houses or homes in which patients are cared for for payment, is an interesting commentary on the changing practice of medicine. In 1890, there were 31 metropolitan licensed houses and 58 provincial ones. When the National Health Service came into operation, in 1948, the corresponding numbers were 16 and 21; now they are 12 and 15.

Regional Planning of Diabetic Services.—On the recommendation of his Central Health Services Council, the Minister of Health has recommended to hospital authorities the following plan for the setting up of regional centers for the treatment of diabetics. It is considered that the requirements of diabetics can best be met by special regional centers to assist the family doctor and to permit concentration of expert supervision, the most advantageous use of existing medical facilities, and adequate treatment within a reasonable distance of the patient's home.

A regional diabetic service would normally include one or more such centers with facilities for the assessment and stabilization of the patient's condition, care of diabetic emergencies, training of patients with dietetic advice and instruction in use of insulin, and finally facilities for regular outpatient supervision. Such a center would need accommodation for inpatients and outpatients and should be linked with smaller peripheral clinics so situated that patients do not normally have to travel more than 25 to 30 miles for specialist consultation. It is suggested that one bed is needed for every 50 diabetics, to handle those patients who need admission for the initial assessment, stabilization, and training and to deal with relapses, complications, and emergencies. The incidence of diabetes has been estimated at three per thousand of the population of Great Britain. This means that for a population of around 350,000, some 20 beds would be needed to serve the 1,000 diabetics in that area.

The smaller centers need facilities for urine testing and blood sugar estimations. In addition to the medical staff, there should be a sister trained in dietetics and insulin administration, as well as one or more other nurses. The larger centers would provide a full range of ancillary facilities, especially pathological and radiological, with the necessary nursing staff, dietitians, part-time almoner, and chiropodist. The largest centers, probably in teaching hospitals, might have physicians specializing mainly in diabetes, but in most cases the centers will be in charge of a general physician with a special interest in diabetes. He should have had experience at an appropriate center before taking charge. Opportunities for any necessary training should be made available by the responsible hospital authorities to any physician new to this work.

Special arrangements should be made for the treatment of tuberculous, pregnant, and aged diabetics. In any one region, tuberculous diabetics should, wherever practicable, be concentrated in one sanatorium that should be closely linked with a diabetic clinic. Pregnant diabetics should be treated in large maternity units associated with general hospitals where special facilities for diabetics and special experience in the care of pregnant diabetics are available. Pregnant diabetics would be the responsibility of both the obstetrician and the physician concerned with diabetes. Aged diabetics should be able to use a diabetic clinic.

Medical Research Council.—The annual report of the Medical Research Council, which covers the year ended September, 1952, shows that the total expenditure of public funds was £1,587,544 on ordinary account and £137,704 on nonrecurrent account. Benefactions included $63,000 from the Rockefeller Foundation, $25,000 for travelling fellowships in medicine awarded by the council and $38,000 for the purchase of scientific equipment in the United States, and $36,000 from Eli Lilly & Company, $16,000 for travelling fellowships in medicine over a period of three years awarded by the council and $20,000 for the purchase of scientific equipment in the United States over a period of two years. The number of persons employed by the council for its own purposes was 1,427: 441 scientific staff members, of whom 152 are medically qualified, 519 technical, 264 administrative, and 156 full-time and 47 part-time maintenance staff members. This does not include the 50 African personnel employed at the field research station in the Gambia. As agents for the Ministry of Health, the council also employed 920 members of the Public Health Laboratory Service.

Developments referred to include conversion and new building work at the Hampstead laboratories to provide facilities for research on climatic physiology. Work has also been started on a new building at the Christie Hospital, Manchester, to house a betatron, while work is proceeding on the buildings to house the cyclotron and linear accelerator at Hammersmith for the radiotherapeutic research unit. At the end of the year, the organization consisted of the National Institute for Medical Research, 38 research units, 7 less formally constituted research groups, the antibiotics research station, the Laboratory Animals Bureau, and the field research station in Gambia. A new unit

founded during the year was that for research on the experimental pathology of the skin. The report also gives details of the council's 68 "principal committees." There are nine separate committees concerned with various aspects of cortisone and corticotropin (ACTH).

Tuberculosis Hostels.—Under the National Health Service Act, county councils and county borough councils are empowered to provide residential hostels and to charge for the services provided to those accommodated. As a result of their experience in London and the neighboring county of Middlesex, W. Hartston and J. F. Macgregor outline a scheme for the organization of such residential hostels for the homeless tuberculous patient (*Tubercle*, **34**:180 [July] 1953). The problem is an urban one, especially in large cities with acute housing shortage, and affects mostly men, especially elderly men trying to live on an old age pension or on National Insurance grants. Many have unstable, chronic conditions and divide their time between hospital and lodgings. "Often they are retained in hospital long after all available therapeutic measures have been exhausted and remain in hospital only because they have no homes to which they can be discharged." Hartston and Macgregor "look upon such hostels less as a means of reducing infectivity by segregation of the residents, though it may well act in this way to some extent, but more as a valuable social service providing the homeless ambulant phthisic with cheap good board, lodging and laundry and sympathetic helpful medical supervision." Such a hostel "should operate like a good quality boarding house and not like a nursing home or 'institution'."

While a hostel accommodating 40 or 50 persons is probably the most economical size, it is too large to allow the individual attention that is so desirable, and it is stated that hostels designed for 12 to 25 persons can be run satisfactorily. It is estimated that, in a fairly dense urban area, five hostel beds will be needed for 1,000 tuberculous men. A hostel for 20 men will cover the needs of an urban area of 1,200,000. It will need living accommodation for the resident staff, an office for the warden in charge, an examining room for the visiting physician, bedrooms, two recreation rooms, one or two dining rooms, a kitchen and annexes, three or four bathrooms, seven wash basins, four toilets, a sputum disposal sluice room, storage accommodation, a linen room, and a handicrafts workroom. Most bedrooms should be single; none should have more than four beds. It is considered useful to earmark one of the bedrooms, with two or three beds, as the "sick bay." "An attractive garden of at least half an acre is essential."

A hostel for 20 will need a warden, an assistant warden (these two should preferably be man and wife, with the wife acting as assistant warden who cooks and acts as domestic supervisor), and the equivalent of three full-time domestic assistants. All staff members should be over the age of 30 and should be tuberculin tested. Roentgenograms should be made of all and should be repeated every six months. A local general practitioner should act as hostel physician. Specialist care is provided by the physician of the local regional hospital board chest clinic.

Applications for hostel accommodation will come mainly from hospitals and chest clinics and will "relate to men who are homeless, temporarily or wholly disabled and perhaps at the moment living in common lodging houses. Some of these men will also have temperamental peculiarities which while tolerable in private lodgings would be a menace in a hostel." It is considered that the sifting of such applications should be in the hands of the Medical Officer of Health of the local health authority. The cost of building or converting available premises will vary considerably, but new equipment for 20 residents will cost approximately £2,500, and the average gross cost of maintaining a man will be around £4 10s.

Cancer Education.—This is one of the subjects dealt with in the annual report for 1952 of the Central Health Services Council, the body established under the National Health Service Act to advise the Minister of Health on problems arising out of the working of the service. Its membership is equally divided between physicians and laymen, the latter including persons with experience in hospital management, local government, nursing, pharmacy, and dentistry. The council recognizes that publicity schemes, if carried out with circumspection and in such a way as not to cause fear, must be of value in reducing the delay between the onset of symptoms and consultation of the general practitioner. Its members feel, however, that it is preferable, for the present, for the work on cancer education for the public to be carried out on a local basis by local authorities and voluntary organizations. The best way of handling the problem is not yet "clearly" known. Where there is so much room for experiment, local health authorities and voluntary organizations should be encouraged to devise different schemes. It is considered that "a most important" part of cancer education is education of physicians themselves in early diagnosis; such education on the early recognition of cancer is still deficient. The final recommendation to the Minister of Health is that it is undesirable at the present for any cancer publicity to be distributed by any central government organization direct to the general public. On the other hand, the minister encourages local health authorities and voluntary bodies to carry out exploratory schemes of cancer education to enlarge the knowledge of what can be done in this field. It is also recommended that there should be further facilities for educating physicians and medical students in the early recognition of cancer.

NORWAY

Studies of the Coagulation of Blood.—Last March, at the University of Oslo, Dr. Knut Aas successfully defended his thesis "Investigations of the Coagulation of Blood, with Special Reference to Proconvertin and Convertin." With the help of funds put at his disposal by certain corporations, he worked since the summer of 1950 on experimental investigations of the coagulation of blood at the coagulation laboratory of the medical department A of the Rikshospital. This thesis, which also includes a detailed account of a patient treated in the medical department A and in whom curious features throwing new light on the coagulation of blood were manifest, may be described as an important link in the chain of coagulation studies conducted by the Owren team at the Rikshospital. It will be recalled that Owren's discovery, in 1943, of factor V in the processes of coagulation was followed, in 1947, by his discovery of, what he called at this time, cofactor V. Since then these two factors have come to be known as proaccelerin and proconvertin respectively. In his thesis, Dr. Aas reviews the investigations that since 1943 have been undertaken in connection with the conversion of prothrombin to thrombin, and he explains the working hypotheses from which his own research started. He confirms Owren's hypothesis concerning the nature of proconvertin and convertin, and he suggests that the discrepancy between the results obtained by the one and the two stage methods of prothrombin determination may be explained by recent observations concerning the proconvertin-convertin and the proaccelerin-accelerin systems. The detailed account Aas gives of the technique of the quantitative determination of the clotting factors should prove helpful to workers in other parts of the world.

In a recent appeal to the general public, Owren drew attention to the need for support of organized research in Norway in the faulty coagulation of blood including thrombosis. This group of diseases has, in his opinion, caused more deaths after the age of 50 than any other morbid process. Since 1948, he has developed a cautious system of bishydroxycoumarin (Dicumarol) treatment, aiming at an accurate dosage graduated to avoid the extremes of too timid or too heroic methods. As a result of this work, he no longer gives large doses at intervals of some days; he has determined the exact daily dose of the drug that each patient needs to achieve a normal coagulation level. This dosage is based on exact methods for the estimation of prothrombin and proconvertin. Once the proper dose for each patient has been found, bishydroxycoumarin treatment can be continued indefinitely, with a blood examination only every fortnight or three weeks. Owren's patients are thus enabled to continue treatment after discharge from hospital and need only to send him samples of their blood by mail from time to time. Dr. Owren has worked on these problems since January, 1949, and now has several patients who have received constant bishydroxycou-

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marin treatment for up to four years. Dr. Owren is encouraged by the results he has achieved, for many of his patients with coronary disease have been enabled to return to work because of this prophylactic treatment.

Standardization of Serologic Tests for Syphilis.—At the Gade Institute in Bergen, the routine serologic testing for syphilis includes Wassermann tests, with three different antigens and three different flocculation tests; Kahn's standard reaction; Meinicke's "Klärung's" reaction, and venereal disease routine laboratory test. The technique of each test differs so in various parts of the world, and even within the boundaries of Scandinavia, that there is at present little hope of a fair comparison of the results of each. Commenting on this situation, Prof. T. Vogelsang of the Gade Institute suggests, in *Nordisk medicin* for July 2, 1953, that it would be possible to adopt international standard methods the employment of which would be obligatory. In 1947, a comparison of the Wassermann test as employed in both Copenhagen and Bergen showed that the sensitivity of this test in Bergen was considerably greater than in Copenhagen. On the other hand, this test seemed to yield a greater number of nonspecific reactions in Bergen. While the Copenhagen antigen contained only 0.26% cholesterol, the corresponding figure for the Bergen antigen was 1%, a figure subsequently reduced to 0.8% with a view to rendering the test more specific although somewhat less sensitive.

Professor Vogelsang's appeal for international standardization in this field is supported by the evidence he presents of the growing importance of testing for syphilis as illustrated by statistics from his own laboratory. In its first year (1912), the Gade Institute dealt with only 102 samples of blood for Wassermann testing. At the outbreak of World War II, the corresponding annual number was between 5,000 and 6,000, and at the present time some 18,000 samples of blood are dealt with yearly. The samples of cerebrospinal fluid have shown a parallel rise, with only 500 to 600 a year before the war as compared with some 1,300 a year at the present time. At one time it was chiefly because of clinically suspected syphilis that samples of blood were sent to the institute, whereas, at the present time, testing for syphilis has become a matter of routine now that serologic tests are compulsory for pregnant women. There are also the would-be emigrants and other groups requiring certificates of freedom from syphilis. A comparison of the figures for the first half of 1939 with the first half of 1952 shows that the percentage of syphilitic serums has fallen, but the actual number of such serums has risen from 646 out of 3,331 in the first period to 881 out of 7,468 in the second period. Professor Vogelsang's description of the change since World War II in the treatment of syphilis as revolutionary is to a great extent a tribute to penicillin as a substitute for arsenic and heavy metals.

Influence of Age, Marriage, and Other Factors on Breast Cancer.—The Norwegian Radium Hospital has dealt for so long with so many cases of cancer that the material now at its disposal is well suited to statistical investigation. Two members of its staff, Selmer Rennaes and Lita Holan, have undertaken a study of the 1,784 women who were treated at this hospital in the period 1932-1944 for cancer of the breast. After the deduction of 236 cases in which information concerning the number of children born to each patient was incomplete, there remained 1,548 patients, approximately half the total number of women suffering from cancer of the breast in Norway in the same period. The breast cancer rate was higher among the unmarried than among the married patients, and between the ages of 50 and 55 the married women showed a fall of the breast cancer rate. For the unmarried women there was a similar fall, but it occurred some 10 years later. Similar observations have been made elsewhere, first in Denmark and later in Switzerland and England. The Norwegian statistics also showed that the breast cancer rate was inversely proportional to the number of children the patients had had. In their comments on this investigation, published in *Nordisk medicin* for July 9, 1953, Rennaes and Holan digress to discuss the action of hormones on experimental animals and human beings. With regard to the latter they point out that the administration of diethylstilbestrol (Stilbofollin) to elderly women may be followed by marked regression of both the primary breast tumor and gland metastases. Also that castration plus testosteronepropionate (Testin) can effect both subjective and objective improvement in young women suffering from breast cancer.

PARIS

Experimental Ethylism.—J. Lhermitte presented before the National Academy of Medicine his work on experimentally produced ethylism. He stressed that it is difficult to evaluate precisely the pathological role of ethylism in human organism. Even when a series of changes in organs are observed at autopsy, it is found that they are not due to poisoning by ethyl alcohol only but often to such other affections as malnutrition, vitamin deficiency, syphilis, and tuberculosis. Experiments performed by various authors have resulted in errors, either because the amount of alcohol introduced was inaccurately estimated or because an alimentary unbalance and a deficiency of ingestion and absorption of vitamins was superimposed on ethylism. In his recent experiments the author succeeded in avoiding these errors. He introduced diluted absinthe by means of a special apparatus, directly into the digestive canal of female rabbits that were being fed an abundant and varied diet. The test lasted from 6 to 8 months, after which autopsy showed that the gastric mucosa had thickened and gave evidence of interstitial gastritis in the prepyloric region. The ulcerations reported by the other authors were never observed. The liver had the appearance of a cardiac liver when the animal died within the first months, but, when poisoning had been present for a longer period, a cirrhosis of the Laennec type occurred, which was identified by the proliferation of portal connective tissue and alterations of portal blood vessels, some of which showed complete thrombosis. A fatty degeneration of the parenchyma was also often observed. A female rabbit subjected to poisoning with ethyl alcohol for over six months had eight stillborn offspring with tegumental dystrophy. Only one of the offspring survived, and autopsy revealed a cirrhosis of the Laennec type. This finding is new and shows that ethylism has an action not only on the liver of the adult but also on that of the fetus. As regards the nervous system, the effect is different on the spinal cord and the cerebellum on the one hand and on the peripheral nerves on the other. In the spinal cord, anterior radicular cells are deeply damaged. In the first stage chromolysis, karyolysis, edema, pus, and complete cytolysis appear; in the last stage the disappearance of protoplasm is complete. At the same time, a reaction of the microglial, perineuronic elements produces images of "neuronophagy." On the other hand, there are no vascular or meningeal lesions. In the cerebellum, lesions restricted to the Purkinje's cells are noted, and there is a form of degeneration similar to that found in the spinal cord, but the constituent elements of the cerebral cortex are undamaged. In contrast to these deep changes, no vascular or inflammatory reaction is noted in the peripheral nervous system.

Labyrinthic Hypotension.—Vertigo due to hypertensive disorders of the labyrinthic fluids is well known. In the *Journal de Médecine de Lyon*, 1952, pp. 821-826, R. Mayoux described a hypotensive origin of this disorder. The syndrome in these cases is generally buzzing, vertigo, and deafness. Hypotensive vertigo is observed especially in young persons in whom arteriosclerosis is precluded; but, in these same patients, labyrinthic hypotension and hypertension may alternate. As to the mechanism of this labyrinthic hypotension, after having observed 21 patients, the author admits the existence of a vasomotor unbalance, inducing a diminution of pressure in the internal auditory artery and, then, a fall of pressure in the vascular stria of the cochlea secreting the endolymphatic fluid. Among 21 patients showing syndromes of labyrinthic hypotension, the author observed 14 subjects in whom the pressure in the central artery of the retina was very low. The author stresses that the internal auditory artery and the central artery of the retina belong to the cerebral circulatory system.

For treatment he recommends the intravenous injection of distilled water. He obtained spectacular and immediate results and, in the rare cases of relapse, further treatment with distilled water brought about complete recovery.

Hereditary Factors in Development of Cancer.—P. F. Denoix, M. P. Schutzenberger, and G. Denoix studied 3,300 case histories gathered in the anticancer centers of France, to determine the influence of heredity on the development of cancer. In each case the site of the cancer as well as the existence of a cancer in the patient's brothers, sisters, parents, and grandparents was noted. In a study published in the *Bulletin de l'Institut National d'Hygiène*, the authors drew certain conclusions from their investigations. There is a familial tendency toward development of cancer in specific sites. There appears to be a certain hereditary predisposition in given groups to cancers of the upper respiratory-digestive tract, uterus, and breasts. The proportion of patients whose parents had cancer was 10 to 15% for all sites; it is notably higher than that of grandparents. Moreover, there is a certain matroclinous tendency in female patients, i. e., the proportion of cancers in the sisters, mothers, and grandmothers of patients is larger than among male members of their families. More maternal grandmothers of cancerous patients than paternal grandmothers also had cancers. The authors intend pursuing their investigations on a larger scale.

Antigenic Variations of Salmonella Typhosa.—A. Jude and P. Nicolle reported initial results of their work on antigenic variations in Salmonella typhosa cultivated at different temperatures to the National Academy of Medicine. After incubation at 37 C Salmonella typhosa is very rich in antigen Vi. Therefore it is well protected against humoral antibodies and phagocytosis. Conversely, at a temperature of 41 C and 18 C the production of antigen Vi is much diminished but the culture is very rich in antigen O, which makes it very toxic for laboratory animals. These experimental studies and clinical observations of typhoid patients led the authors to believe there is a relation between the symptoms of the disease and the modifications of the bacillus in the course of the disease.

Diabetes.—In the March-April issue of the journal *Le Diabète*, Darnaud, Ferret, Denard, Moreau, Voisin, and Commanay reported on 2,000 cases of glucosuria. Four per cent of these patients had renal diabetes, among whom were some who were treated with insulin because their condition was not recognized. A direct cause of diabetes was found in only 2% of the cases, with the commonest associated condition being exophthalmic goiter (Basedouis disease). In 30% of cases there was a familial history of the disease. In 10% of cases the patients were children, and more than 50% of the patients were over 40 to 50 years of age. A characteristic fact has been stressed by the authors: 87% of diabetics under 40 years of age have acidosic diabetes; conversely, the majority of patients over 40 have been obese in the past and are not acidosic. As to complications, polyneuritis occur in 15% of the patients, tuberculosis in less than 2%, and degenerative vascular complications in over 20%. Vascular complications are commoner in long standing diabetes.

Preventoriums for School Children.—At a meeting of the National Academy of Medicine, Fourestier M. David and R. Huguet reported the results of a new experiment with school children. During the winter of 1953, 31 children of a municipal school, from 12 to 13 years of age, were sent with their teachers to a winter station in Savoie at an altitude of 1,400 m., where they lived in a chalet especially equipped for them. During the month one-half of the time was devoted to instruction and the other to sports, with classes in the morning, sports in the afternoon, and a long siesta afterwards.

Remarkable results were noted; from the physical point of view, remarkable improvement occurred and learning productivity increased greatly. The authors believe this new system has a better preventive action and ought to be systematically organized for whole classes in order to benefit children with latent deficiencies as well as those in good health.

CORRESPONDENCE

CORONARY DISEASE AMONG SOLDIERS

To the Editor:—The interesting report by Enos, Holmes, and Beyer (Coronary Disease Among United States Soldiers Killed in Action in Korea, *J. A. M. A.* **152:**1090 [July 18] 1953) calls for comment. On its face value it is very alarming to find that, in 300 autopsies of young soldiers killed in action or in accidents who showed no clinical evidence of coronary disease during life, 77.3% had some gross evidence of coronary arteriosclerosis on postmortem examination. The average age was given as 22.1 years. The authors' statements leave us with the impression that upward of 77% of the youth in our country have coronary disease; this would, of course, be a frightening state. If we look over the few figures presented, however, we find that the ages were apparently obtained in only 200 cases, the youngest being 18 years and the oldest 48 years, with an average of 21.1 years. In 98 cases, the authors state that no age was recorded "except that the oldest was 33 years." If no age was recorded, how can one tell that the oldest was 33 years?

An analysis of the interesting coronary pathology they observed reveals that, in the entire series of 300 cases, no coronary disease was found in about 23% and "fibrous" thickening or streaking of the coronaries with insignificant luminal narrowing occurred in 35%; this makes a total of 58% free, or practically free, from coronary disease. In the remaining cases, 13.3% showed only an estimated 10% and in 6.3% only 20% of luminal narrowing, which would bring up the total number of cases to 78% with no coronary disease, insignificant changes, or comparatively trivial changes. Luminal narrowing in a degree of 30% or more occurred in only about 19% of cases, and in 3% complete occlusion of one or more vessels was observed. Clinically important coronary disease, therefore, occurred only in about 22% of the cases. Inasmuch as the authors did not correlate the various degrees of coronary disease observed with the ages of the patients, we can not tell whether these 22% of cases comprise the younger or older ages. My guess would be that they include mostly the older ages.

It would be of great value if further studies were continued by these authors and other groups who are able to obtain autopsy material in accidental deaths and an attempt were made to correlate the degree of any coronary pathology found with the ages of the patients. Only in that way can we ultimately get a true analysis of the incidence of asymptomatic coronary disease at various ages. There have been to date several recorded series of cases by various authors in the literature correlating age with the degree of coronary disease. That of Yater and co-workers (Comparison of Clinical and Pathologic Aspects of Coronary Artery Disease in Men of Various Age Groups: A Study of 950 Autopsied Cases from the Armed Forces Institute of Pathology, *Ann. Int. Med.* **34:**352, 1951) comprises the largest series. In all these, however, death was attributable to coronary disease not to accidental causes.

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RECEPTION OF PATIENT

To the Editor:—I wonder if we always "see ourselves as others see us." I am a physician in Ohio. I recently received the following letter from my daughter in a distant city.

"This A. M. at 8:30 I kept an appointment made two weeks ago with an 'eye-doctor.' Had to wait 45 minutes, endure his off hand examination made while talking animatedly with his nurse about golf arrangements or something and paid him ten dollars when he finished deciding my eyes are all right and my headache 'emotional,' probably. It certainly can't be difficult for a doctor to assume an attitude of concern—that is what creates confidence."

Name withheld on request.

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BUREAU OF INVESTIGATION

JACOB S. SCHIRMER

Investigation Report of Arkansas Attorney General

The Honorable Tom Gentry, Attorney General for the State of Arkansas, has filed a complaint in the circuit court of Clay County, Ark., wherein Jacob Sass Schirmer of Corning is named defendant. The attorney general demands that Schirmer show by what legal right he is exercising the franchise and privilege of the practice of medicine in Arkansas and prays the court to enter a judgment preventing and forbidding Schirmer from practicing medicine.

Attached to the complaint is the report of an investigation of Schirmer's present and past activities. Schirmer has been in the forefront of the promotion of the Koch "Glyoxylide." He was the first president of a group calling itself the "American Association of Physicians," which published at intervals a journal devoted to the promotion of the Koch nostrums among physicians and cultists who use the material. More recently he has been a "Research Associate" in the Lincoln treatment.

THE JOURNAL publishes, in its entirety, the report of the special assistant attorney general who was appointed to investigate Schirmer's license and his so-called practice. This is done to enable its readers to learn what is behind a medical quack. It is hoped that this report will serve as a guide to those in medicine who have to do with the licensing and qualifications of doctors and as an example of the painstaking thoroughness required of those whose duty it is to expose quacks.

It may be observed by some that this is a unique situation. Nonetheless, there are persons who pose as doctors of medicine who are neither legally nor morally entitled to administer to the needs of the communities in which they practice or to the gullible public generally which responds to their advertising and their promotional activities. The investigational report on which the complaint was based follows.

"I submit here the report of the investigation of Jacob Sass Schirmer of Corning, Arkansas. No doubt a word of explanation as to the length of the report and as to the wide scope of the investigation is appropriate. The complicated and complex method used by the subject in reaching his objective, a license to practice eclectic medicine in the State of Arkansas, necessitated a complete review of his activities over a period of nearly twenty years. During this time he pursued this objective from Georgia to Missouri to Arkansas to Connecticut, back to Arkansas then to Georgia again, and from there to Indiana and then back to Arkansas. It is incredible that Schirmer could have obtained a license to practice medicine in the manner he did and then could continue to practice in the manner he has for the length of time which has elapsed without the fact that he originally obtained that license by deceit being brought to light. It is also incredible that there would be allowed to exist in the enlightened state of Arkansas an institution operated such as Schirmer's so-called research hospital. Of this hospital the State Special Investigator reported, 'The hospital does not treat any local patients; even though it might be an emergency case they would not accept them. No local doctors practice in this hospital. The turn-over of doctors practicing in the hospital seems to be quite large. A doctor may work in this hospital from two weeks to six months and then be gone. They seldom leave a forwarding address for mail at the post office. They do not mix and mingle with the citizens of the town socially, do not attend their churches, and I was told by two or three citizens that the hospital specializes in the treatment of cancer, tuberculosis and leukemia; that apparently the same treatment is given in all cases, that being some kind of an inhalant which is breathed through the nose. I understand these treatments are quite expensive, sometimes as much as $400.00 per week for a patient, and that the hospital does not accept checks; that in various instances the patient or some of his family goes to the local bank and draws checks on their respective bank back at their home in order to pay the hospital cash. Some of the people I talked to said the hospital is operated very strangely and that the people of Corning don't know what is going on, as very few of them have ever visited in the hospital.'

"A possible explanation of the failure of the responsible citizenry of Arkansas to act against Schirmer is that since 1934 he has held what appears upon the surface to be a valid license to practice eclectic medicine. Only a thorough and painstaking search of the records of several states brought to light positive evidence that he was not entitled to this license and had obtained it after years of cunning maneuvering and in an extremely ingenious manner. May I observe in passing that ordinarily when an individual has been allowed to practice as long as Schirmer, even though he does not possess the necessary qualifications for a medical license, there is a natural disinclination to disturb him in his later years. This is not true, however, when that individual, given a feeling of security by the passage of time, embarks upon a career or a course of action which endangers the public welfare and becomes a menace to mankind. I find that Schirmer is considered by responsible authorities as one of the most notorious cancer-cure quacks of the day. He has reaped and is reaping a harvest of dollars at the expense of those poor and unfortunate persons who are afflicted with incurable diseases and who will turn to anyone who will raise false hopes in them for a fee, the size of the fee is immaterial when life itself is sought to be prolonged. Any so-called doctor who decides to assume this position is entitled to expect that both his professional qualifications and his moral character will be carefully scrutinized by those public officials to whom the duty of protecting the public has been entrusted. He should be willing to disclose his life's history and activities so that the public itself may judge whether he is honest and sincere. Those who cry 'persecution' and who seek to draw some religious curtain between them and the cold light of public scrutiny are but revealing their inability to stand examination.

"In order to understand and to appreciate the reasons for Schirmer's many movements and circuitous action, it is essential that one keep in mind the requirement of the Arkansas statutes that the applicant for a medical license be a graduate of a 'reputable medical school' and that it was some few years after the enactment of this statute that the Arkansas Supreme Court interpreted that provision to mean a school which had a four-year course of study and a curriculum as good as or equal to the better class of medical schools in the United States. A number of licenses were issued between the date of the adoption of that law and the Supreme Court opinion which were based upon diplomas from so-called medical schools which were schools in name only.

"How such a situation could arise is an interesting historical story. At the turn of the century medical men had been divided in opinion as to whether allopathic or eclectic medicine was to be preferred. Eclectic colleges of medicine were just as reputable and prominent as allopathic colleges. There were undoubtedly good methods in both theories and it was inevitable that sooner or later the good in both would be combined into one theory of medicine. Since both had equal standards, states enacted laws giving each equal privileges and standing. Arkansas' 1903 Medical Act created separate licensing boards but provided that the same laws should apply to both. As I have said previously, it was inevitable that the two theories would eventually merge or that one would take over the other. In the early 1900's the eclectic colleges began moving in with the allopathic colleges. This movement left a peculiar situation in some states. Here were laws permitting eclectic boards to issue perfectly valid licenses to practice medicine, and nobody to take advantage of them. It didn't take long for some enterprising and unscrupulous individuals to cash in on the market before the states could adopt legislation to plug the holes left in their medical licensing laws. Under most state laws, if an individual had a diploma from

an eclectic medical college, he was eligible for a medical license. Quickly abandoned and dormant eclectic schools were reopened under private ownership. Thus for a brief period flourished the diploma mill. All that was necessary was to pay the tuition fee; a diploma was forthcoming.

"But it was essential that there be a companion-in-arms with these mills. Eclectic Licensing Boards must be found who would cooperate in the fraud on the public. In a few states unscrupulous men seized control of eclectic licensing boards. Licenses were sold 'en masse' and so-called 'graduates' from the diploma mills flocked to these states for licenses. Thousands were ushered into the practice of medicine without qualification. A national scandal was in the making. The reputable eclectic physicians and colleges were helpless. (Reciprocity is a necessity in professional fields.) The reputable could not afford to abolish reciprocity, nor were they able to stem the tide of fraud, deceit and graft in their field, and as a consequence many fine, qualified eclectic physicians have been forced to suffer the embarrassment and shame of having quacks and charlatans hold themselves out as true eclectic physicians.

"The American Medical Association, in an effort to keep up with the swelling tide of physicians, set up a record bureau and published a listing of all physicians, whether allopathic, eclectic, homeopathic, etc. This became the only official record of all physicians, and listing was considered a necessity even by the quacks. There was no charge for the listing; all boards regularly reported the names of those to whom licenses had been granted and those who failed examinations. Regularly data cards were sent to all physicians listed, and an up-to-date record was sought to be kept on all. No effort was made to grade the physician or to credit or discredit him. The statements made by him were accepted as true and entered upon the card.

"One of the most prominent and enterprising gentlemen to reap the golden harvest of the diploma mill was Date R. Alexander, who operated the notorious Kansas City diploma mill and was eventually convicted and sentenced to the federal penitentiary in connection with his fraudulent issuance and sale of medical diplomas from his Kansas City College of Medicine and Surgery. For a while his 'college' was the mecca for the person who wanted to be a doctor but who didn't have the time or energy to prepare himself through attendance at a reputable medical college. Working with Alexander were several state eclectic licensing boards, the most notorious being that of Connecticut. Also working with him was the then Secretary of the Arkansas board, Dr. C. E. Laws, who was later convicted and sentenced to the federal penitentiary along with Alexander. It does not appear that the remainder of the Arkansas board was in on the deal with Alexander and Laws, but possibly should be charged with considerable negligence and inattention to duty, as will be subsequently seen. Alexander had a protege who was a product of this maelstrom of the golden age of quackery. His name was Jacob Sass Schirmer, whom it took twenty years to obtain a license by the use of his wits, and who was destined to become a protege of the infamous Koch and now the leading exponent of the Lincoln inhalant cancer and leukemia cure.

"Schirmer was born in Charleston, S. C., but the exact date seems to be questionable. He claimed to have been born in 1884 on his data card furnished the A. M. A. in 1922. In his application to the Connecticut Licensing Board in 1920 he gave his birth date as 1888, and later, in 1948, he gave his birth date as 1892 on a subsequent data card sent him by the A. M. A. It is somewhat amusing to examine the records of the A. M. A. on Schirmer. He gave such conflicting data on his various reports to the A. M. A. and to the other bodies to whom he furnished a history that the record section had three separate and distinct personnel cards on him. He claimed to have graduated from high school at Ashland High School, Ashland, Mass., in 1903. (I have in my possession a certificate from the Superintendent of Schools of Ashland, Mass., that a search of the records of that school from 1897 through 1908 failed to reveal the name of Jacob Sass Schirmer or Jacob S. Schirmer.) He became a motion picture machine operator at Atlanta, Georgia, where his father was a chiropractor specializing in treatment of chronic nervous diseases. He claims to have attended the Georgia College of Eclectic Medicine and Surgery from 1908 until 1913, but this claim is not substantiated by the records of the college. I have examined the lists of students published by that school for the periods mentioned, and his name does not appear for any of the years claimed. (It is also reasonable to assume that were this claim true, it would have been unnecessary for him to go through all the later maneuvering he performed to get a license in Arkansas.) I have also interviewed persons who knew him at Atlanta during this period who have stated to me that he was a motion picture machine operator and made no claim to being a physician.

"He now claims to have had a residency in the private hospital of one Dr. W. B. Lingo, a notorious cancer-cure quack of that age. Lingo was also 'dean' of the Southern School of Medicine and Surgery at Atlanta. The Atlanta *Banner* on Oct. 13, 1916, carried a full story of the investigation by the Georgia Board of Medical Examiners of the fraudulent issuance of diplomas by Dr. Lingo's college and the fraudulent issuance of eclectic medical licenses by one Dr. C. W. Miller, who was secretary of the Eclectic Licensing Board. It is interesting to observe that the legislature of Georgia abolished the Georgia Eclectic Licensing Board in July of 1913. Thereafter a number of licenses signed by Miller and dated May and June 1913 appeared in Georgia. The news article in the *Banner* reports parts of this investigation in this manner: 'Dr. W. B. Lingo was dean of the college. It developed that the board might prosecute Dr. Lingo on charges of perjury. It was alleged that he had attended a medical college in Baltimore, had gone to Nevada and obtained a license under the law which required only registration and then returned to Georgia and had been given a reciprocal license. The testimony relating to Drs. Tallent and Goodson was that they had attended the Georgia College of Eclectic Medicine and Surgery in the spring of 1916. They recorded licenses dated June 1913. It was brought out that Dr. C. W. Miller, a member of the eclectic board the latter part of September and October 1913, two months after the board had been abolished by the legislature, issued 28 to 30 licenses. Dr. Nolan, secretary, asserted that there is someone in the state making a practice of issuing these licenses and dating them back. The licenses held by several doctors which were revoked Thursday are alleged to have been dated back.'

"This above story is pertinent to the present investigation because in 1917 Schirmer filed a purported Georgia eclectic medical license at Savannah, Chatham County, Georgia, which is some considerable distance from Atlanta where he was living. This purported license is of interest in that it is dated May 3, 1913, and is signed by C. W. Miller. There is no record of Schirmer ever having lived in Savannah, and the license was never recorded at Atlanta, where Schirmer lived. I have in my possession affidavits from the secretaries of the Georgia State Medical Boards that Schimer was never issued any license to practice medicine by any Georgia board, according to the records of the boards. No report of the issuance of such a license was ever made to the A. M. A. record section, nor was any report ever made that Schirmer had applied for or had taken an examination for a Georgia license. Apparently this license was too hot for even Schirmer to handle, because he has never used it as a basis for reciprocal license claims. (His later actions demonstrate that he had no confidence in this so-called license.)

"About March 1917 Schirmer's name appears on the list of applicants for matriculation to the College of Physicians and Surgeons at Boston, Massachusetts. This college published quarterly a list of the applicants for matriculation and a list of the students in attendance. Schirmer's name appears first in the Quarterly Vol. 38, #2, which is for the spring of 1917. He does not appear in any of the subsequent quarterly listings until a year later, in Quarterly Vol. 39, #2, which is for the spring of 1918. Again he does not appear in any of the subsequent quarterly listings until Quarterly Vol. 41, #3, which

was for June 1919, when he was again listed as an applicant for matriculation. Why he never followed through on his application is probably explained by the language in the report of the Hartford, Connecticut, Grand Jury of 1924, which states in part: 'The Grand Jury caused an investigation to be made of the College of Physicians and Surgeons of Boston; the Dean gave information freely, stating most emphatically that the institution was *not* an eclectic institution and never had been, and the Grand Jury finds as a fact that such is the case.'

"Schirmer next appears in Kansas City, Missouri, during the early part of 1920, where he was attending the Kansas City College of Medicine and Surgery, operated by the notorious Dr. Alexander. Schirmer now claims to have attended this so-called college for a 'post-graduate' course in medicine, but, as will be seen, during his later attempts to obtain a license from various eclectic boards, he listed himself as a graduate of the Kansas City College of Medicine and Surgery, that is, until that school was shown to have been pure vehicle for fraud by Dr. Alexander.

"On May 11, 1920, Schirmer came to Arkansas and made application for license to the Arkansas Eclectic Medical Board. He took the examination and failed, receiving a grade of 57 6/12 per cent. I have in my possession a photostatic copy of the minutes of the Arkansas Electic Medical Board of that day, in the handwriting of the secretary, showing Schirmer's failure and also the official report of 'Examination for License to Practice Medicine' furnished the Council on Medical Education of the American Medical Association by the secretary of the Arkansas Eclectic Medical Board, showing that Jacob S. Schirmer failed the examination for license on May 11 and 12, 1920.

"Schirmer immediately followed the mass movement to Connecticut, and on July 13, 1920, allegedly took an examination before the Connecticut Board of Eclectic Examiners. His good moral character and professional standing being vouched for by Dr. Date R. Alexander, Schirmer listed himself in his application before this board, of which I have a photostatic copy, as being a graduate of the Kansas City College of Medicine and Surgery. Thereafter, having obtained a license from a state with which Arkansas had a reciprocal agreement, Schirmer returned to Arkansas, and on May 11, 1921, received a license from Arkansas, by reciprocity with Connecticut. The granting of this reciprocal license was duly reported on the regular forms by the secretary of the Arkansas Eclectic Medical Board immediately thereafter. I have a certified copy of this report, signed by the secretary and in the handwriting of the secretary.

"Schirmer then moved to Urbanette, Arkansas. In due time the secretary of the Connecticut Board reported to the Council on Medical Education that Jacob S. Schirmer of Urbanette, Arkansas, a graduate of the Kansas City College of Medicine and Surgery, had been granted a license to practice medicine by the Connecticut Eclectic Board of Medical Examiners. Notation was accordingly made on the personal data card of Schirmer by the A. M. A.

"Schirmer practiced in Urbanette, having filed his license for record with the County Clerk of Carroll County, as required by the statutes of Arkansas (Act 22 of 1903). This seems to be the fatal error committed by Schirmer in his entire plan of campaign, since the license is still on record and shows plainly that it was issued by reciprocity with Connecticut on May 11, 1921. I have in my possession a certified copy of this license, showing that it was granted upon reciprocity with Connecticut.

"On the first Tuesday of March 1924, the Grand Jury in the County of Hartford, State of Connecticut, filed a report which was due to electrify the medical profession of the United States and which was to cause a radical decrease in the diploma mills of this country. Connecticut apparently had tired of being the happy hunting grounds for all those who could obtain a diploma from diploma mills. The report of the Connecticut Grand Jury reflects that a wide and extensive investigation was made of a number of so-called eclectic 'colleges,' among which was the Kansas City College of Medicine and Surgery. The following is a direct quotation from the report of the Grand Jury of the investigation of this so-called college:

" 'The Grand Jury made inquiry as to the equipment, teaching staff and curriculum of the Kansas City College of Medicine and Surgery. We, the Grand Jury, find that many persons have been admitted to examinations held by the Connecticut Board of Eclectic Examiners by virtue of possession of diplomas from the Kansas City College of Medicine and Surgery, and hold licenses to practice medicine in Connecticut based upon examination by certificate of that Board.

" 'The paid teaching staff consists of two men who receive $100.00 a month. The school is owned and operated by Dr. Alexander. There has not been a meeting of the faculty since 1915. There are no persons connected with this college who have any knowledge of educational qualifications or the administering of an educational institution from the standpoint of efficiency. The conditions existing in this college are almost unbelievable. The man who was introduced as the teacher of anatomy is not a doctor. The head of the school said he was enrolled as a student but the records of the school did not bear out this statement. The classes are taught together; there is no attempt to verify the credentials presented by applicants for admission to the college and the entrance requirements are practically nil. The head of the school stated that if a student claims to have passed certain courses of study, he accepts his statement, as it makes no difference to him. Anyone is welcome, and anyone who has the cash to pay is sure to go away with a diploma. Diplomas are issued to applicants at a charge of approximately $200.00 each, and these diplomas are issued for the purpose of giving the holder thereof the opportunity to appear before Eclectic Examining Boards in some states, but principally Connecticut. The dishonorable traffic in diplomas to be used for this purpose was freely admitted by the head of the school, coupled with the statement that hereafter the price would be higher. It was impossible to obtain a medical education in this college—and students knew it and the diplomas were sought and obtained for the purpose of practicing fraud upon the authorities in the State of Connecticut. The persons receiving a license from the State of Connecticut founded upon a Certificate issued by the Eclectic Board as a result of examinations of such persons, as a graduate of this school, were issued because of the fraud and deceit practiced upon authorities in Connecticut.

" 'We, the Grand Jury, find that there was some question at one time as to the St. Louis College of Physicians and Surgeons and that persons went from that college, and from elsewhere, to the Kansas City College of Medicine and Surgery and came away in less than an hour with a diploma from the latter college. So-called doctors examined by the Grand Jury admitted that they never attended courses of study at the Kansas City College of Medicine and Surgery, had spent less than an hour at that institution, and had paid from fifty to three hundred dollars for the diplomas received.

" 'There is a respectable and apparently responsible National Eclectic Association, the officers of which protested to the Connecticut Eclectic Society and warned against examining persons holding diplomas from the colleges above named, characterizing them as frauds and "bastard institutions." Yet, notwithstanding this warning, and the knowledge which the warning would have conveyed to honest, intelligent persons, the Connecticut Eclectic Society, composed in the main of graduates from these fraudulent institutions, voted to place them upon the list of colleges whose graduates would be accepted by the Connecticut Board of Eclectic Examiners for examination.'

"Before the issuance of the report of the Connecticut Grand Jury on February 16, 1924, it had obviously been turned over to the Commissioner of Health of Connecticut, and there had been a considerable upheaval in that state. A new Eclectic Medical Examining Board was appointed and a review made of all licenses which had been granted by the old board. On February 1, 1924, Schirmer was advised by the Commissioner of Health of Connecticut that his Connecticut license had been revoked by the Connecticut Eclectic Medical Examining Board for fraud and deceit as of January 31, 1924. Thus, the roof caved in on Schirmer. His Arkansas license, duly re-

corded where he was practicing, showed that it was based on reciprocity with Connecticut. His Connecticut license had been revoked for fraud and deceit.

"On February 17, 1924, the newspapers of this area carried the story of the Connecticut investigation and action. The *Arkansas Gazette*, in its Sunday, February 17, 1924 issue, on page 8, carried the story as it pertained to Schirmer. This newspaper pointed out the effect on Schirmer's Arkansas license of the action of the Connecticut Grand Jury and the Connecticut State Board of Health. Schirmer immediately fled from the state. On February 21, 1924, Schirmer addressed a letter to the Commissioner of Health of Connecticut, stating that he wanted to be furnished proof of his fraud and deceit. He begins his letter by saying: 'Your letter under date of February 1 just received.' This letter of Schirmer's is written on stationery of Dr. J. F. Schirmer, 'Chronic Nervous Diseases a Specialty,' Silvey Building, Atlanta, Georgia. It purports to have been written from Urbanette, Arkansas, but it is obvious that if Schirmer had been in Urbanette he would have used his own stationery.

"Schirmer returned to Atlanta, Georgia, and on April 23, 1924, was indicted in Fulton County in Indictment #22104 for practicing medicine without a license. There was no trial, dismissal or conviction of this indictment, but we find that Schirmer went back to operating a motion picture machine. He lived in Atlanta, at 29 East Lake Terrace, making his living as a motion picture machine operator, and, I am informed, manufacturing and selling 'stink bombs' in a laboratory he had in his home. Apparently he ran into difficulty with the owner of the Palace Theater. He employed a man named W. F. Moss to throw a 'stink bomb' in the Palace Theater in August of 1925. On August 16, 1925, the Atlanta *Constitution* carried an article referring to this incident which stated that a panic was created at the motion picture theater, where approximately 400 women and children were sitting in the theater. Schirmer posted a $200.00 bond and disappeared. The police judge, after hearing the testimony, summoned the Chief of Police 'and asked him to use the greatest effort to apprehend Dr. Schirmer and to place his bond at not less than $1,000.00. Chief Jett informed the Court that such orders had already been issued and stated that he would accept no less than $5,000.00.' On August 21, 1925, the Grand Jury of Fulton County, Georgia, indicted Schirmer, one W. F. Moss and one Owen Montgomery in Indictment #24687 for the above action. At the same time Schirmer was indicted in #24686 for making his getaway in a Ford sedan automobile with a license that had been issued for another automobile, to-wit: Hudson coupe. I have in my possession certified copies of all three indictments above set out.

"Schirmer fled from Atlanta, drifting over the country following his trade as a motion picture operator. In 1930 he was living in Whiting, Indiana, and was business agent of Moving Picture Operators Local #133. He appears on the records as one of the officers of the International Alliance Theatrical Stage Employes and Moving Picture Operators as J. S. Schirmer, Business Agent, and was on the Executive Board. I am informed that prior to this time he lived at Oak Park, Illinois, under the name of McCabe, until the heat had subsided.

"In my investigation of Schirmer during his period of residence at Indiana, I was told a most fantastic story which, when checked, proved to be authentic. Schirmer's wife at that time, Marjorie, divorced him and was awarded custody of their small son. Schirmer lived at Hammond, Indiana, and his wife lived at Whiting, Indiana, which is just across the highway. Both of these places are on the outskirts of Chicago and are contiguous with Chicago. The Schirmer boy was kidnapped, and a great and extensive search was made in which Schirmer played a leading part. The boy could not be found, and his mother gave him up for dead. Some sixteen years later the mother learned that Schirmer had brought the boy to Arkansas and had raised him to manhood, 'neglecting' to tell her that her son was not dead, and that he had him in his custody. I insert this story in this report to you because it demonstrates the complete heartlessness of this individual and it illustrates the type of man you will be facing if you decide to stop his racket.

"On October 6, 1933, Schirmer wrote Dr. L. L. Marshall of this city. At that time he lived at 2538 Ridge Avenue, Highland, Indiana, which is also on the outskirts of Chicago. The Arkansas Eclectic Licensing Board had been shaken up in the meantime, and Dr. Marshall had replaced Dr. C. E. Laws as Secretary. Schirmer's stationery read J. S. Schirmer, M.D., Highland, Indiana. Schirmer's letter to Dr. Marshall stated:

"'I lost the address of the Secretary of the State Association and I would appreciate your sending me his address. I am planning on locating some place in Northern Arkansas, and if you know of any desirable location I would more than appreciate any suggestions you might offer. In 1925 we had a fire destroying all my things in fact just escaping in our scant clothing. I lost my Arkansas License at that time in the fire and I told Dr. Laws about it but never requested a duplicate. Please advise me what steps to take and fee to forward for a duplicate.

"'With the very kindest regards, I am'

"We next hear from Schirmer on January 7, 1934, when he again writes to Dr. Marshall on stationery which this time reads 'J. S. Schirmer, M.D., 24 One Hundred Sixty-Ninth Street, Hammond, Indiana.' This is a most unusual letter, since it is obviously an offer to Dr. Marshall to assist him in bribing his way into an organization to which he was not entitled to membership. This apparently was Schirmer's method of softening Dr. Marshall or ingratiating himself so that Dr. Marshall would close his eyes and issue Schirmer a license in Arkansas to which he was not entitled under the records. The letter reads:

"'You will no doubt be surprised in hearing from me, but yesterday I had a long talk with Dr. Limm, Vice-President, Jackson Park Hospital and member of the Credential Board of the College of Surgeons. He asked me to make out an application for F.A.C.S. which I did and so while talking I asked him if he could suggest for membership, one from another state and was advised he could and not only that but he could put it over. So I thought that it might interest you and at the same time be quite a slap at some of our Allopathic Surgeons in Little Rock. If Dr. Limm says he will see it through, one can rely upon his word and he will use every ounce of his power to win his point. I did not know if you were a Fellow of the College but thought if you were not and should want the affiliation that this would be a good time to start the Ball Rolling, and you can rely upon my getting the application into the right hand. If you hear of a good location in Arkansas, I would appreciate any information, as I traveled over the Larger part of the Northern part of the state but could not find just what I wanted.

"'Trusting you had a very Merry Xmas and 1934 be a successful and Prosperous Year, I am'

"Although Schirmer's stationery stated that he was a practicing physician in Indiana, he was never licensed to practice any branch of the healing arts in the State of Indiana. I have in my possession a letter from the Executive Secretary of the Indiana State Board of Medical Registration and Examination stating that there is no record in Indiana 'of anyone by the name of Jacob Sass Schirmer ever having a license to practice any branch of the healing arts in the State of Indiana.'

"Dr. Marshall was not the type man Schirmer had hoped. The records reflect that he did not seek to avail himself of Schirmer's fraudulent offer. Instead, we find that on November 16, 1934, ten months after Schirmer's second letter to him, Schirmer furnished an affidavit to Dr. Marshall which read as follows:

"'I, Jacob S. Schirmer, M.D., of lawful age being duly sworn deposes and says:

"'I took a written examination before the Eclectic State Medical Board and was granted a certificate dated November 10, 1920. I further state that in November 1925 my license was destroyed by fire. I am making this affidavit for the purpose of obtaining another license.'

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"It should be remembered that Dr. Marshall was well aware of the investigation being carried on over the fraudulent issuance of licenses. He was a reputable physician practicing in Little Rock, and for his own protection, he attached his signed and certified statement to Schirmer's affidavit which read as follows:

" 'Upon receipt of this affidavit one of our regular form licenses, signed by all of the present Board Members, was issued. In the blank space originally intended for the word "Examination" or "Reciprocity" to be written—the word "Upon" was struck out and in this space was printed—"IN LIEU OF LOST CERTIFICATE GRANTED UPON WRITTEN EXAMINATION. Nov. 10, 1920." Sent by registered mail to him at Corning, Arkansas, this date, December 14, 1934.'

"May I call to your attention the fact that Dr. Marshall had in his possession the records and minutes of the Arkansas Eclectic Board which would have reflected that Schirmer was issued his license on written examination on November 9th or 10th, 1920, had the statements made in Schirmer's affidavit been true. What then prompted Dr. Marshall's unusual action in placing his signed statement as to why he issued Schirmer's license in the records of the Board? The answer is obvious. An examination of the records of the Eclectic Board reflects that Schirmer's statement was untrue, and that he did not take an examination on the 9th or 10th of November 1920, nor had he been granted a license by that board at that time.

"The minutes of the Arkansas Eclectic Medical Board, written entirely in the handwriting of the Secretary and attested by the President, Dr. Jackson, show that eight individuals took the examination for eclectic medical licenses from this Board on November 9 and 10, 1920, and that Schirmer was not one of the eight. His name does not appear in these minutes at any time or at any place. Also, forming positive proof that Schirmer's statement in his affidavit to Dr. Marshall was fraudulent and deceitful, the report of the Arkansas Eclectic Medical Board to the American Medical Association, signed by the Secretary of the Board as of that date, of which I have a photostatic copy, shows that Schirmer was not one of those taking the examination. There is a very interesting bit of information contained in the minutes of the November 9 and 10, 1920, meeting of the Eclectic Medical Board. I quote: 'Motion by Dr. C. E. Spann that this Board establish reciprocal relations with the Eclectic Board of Connecticut, and that the Secretary extend to the Secretary of the Connecticut Board a proposal that a mutual exchange of licenses between the two boards. Carried and so ordered.' This explains why Schirmer was forced to wait until the spring meeting of the Arkansas Eclectic Board in 1921 to get his license in Arkansas by reciprocity. His later revoked Connecticut license had been issued August 5, 1920, and he could have received a license by reciprocity at the November 9 and 10, 1920, meeting of the Arkansas Board, except for the fact that there had been no reciprocal agreement between Connecticut and Arkansas. After that reciprocal agreement was entered into, Schirmer obtained his Arkansas license by reciprocity with Connecticut.

"Having obtained a license by use of an affidavit not substantiated by the records, and issued solely upon his unsupported statement, Schirmer moved to Corning, Arkansas, and began the practice of medicine. Apparently his practice in the beginning at Corning was not as lucrative as his later 'cancer and leukemia cure' practice, because on January 10, 1938, Schirmer filed a petition in bankruptcy in Case #2002. Schirmer listed his assets as office equipment valued at $100.00 and one set of instruments at $25.00. Schirmer listed no real estate. On February 4, 1938, Hon. Max B. Reid, a capable and competent attorney of Blytheville, Arkansas, was appointed as attorney for the trustee in bankruptcy to pursue assets thought to be held by Schirmer and fraudulently withheld in bankruptcy. In the bankruptcy records we found a claim based upon credit extended to Schirmer on a credit application made by him wherein he stated that he had been a practicing physician 'at Chicago, Illinois, for ten years.' The records reflect that notwithstanding Schirmer's sworn statement that the only assets he had were his office equipment and instruments and approximately $1,000.00 debts owed him, after several hearings at which he was vigorously cross-examined by Mr. Reid, Schirmer produced approximately $6,000.00 in cash and settled with his creditors.

"Schirmer's bankruptcy is of special interest, viewed in the light of the recent announcement that he had transferred his research hospital to a church and that the hospital was valued at $400,000.00. The question immediately arises as to how a physician in a small town can accumulate this kind of wealth in such a relatively short period, especially when that very physician had gone bankrupt in his first four years of practice in this same town. The answer is even more fantastic and bizarre than Schirmer's earlier activities. After clearing his slate of the debts and losses of his beginning practice, Schirmer associated himself with and became one of the leading exponents of the mythical cancer cure originated by one William F. Koch of Detroit. Koch, one of the most notorious quacks and frauds of the modern era, was the subject of an article appearing in the *Commercial Appeal* of Memphis, Tennessee, on Monday, February 20, 1950. I commend that article to your reading for a full disclosure of the associates of Koch and his satellite, Jacob S. Schirmer. The *Commercial Appeal* says:

" 'It's an interesting assortment of quacks, anti-Semitics, Fascists, rabble-rousers and low-rated ministers that has gathered around Dr. William Frederick Koch to peddle and propagandize his "cure" for cancer known as "glyoxylide," which Government chemists says is indistinguishable from distilled water.'

"Let us examine Koch's associates, that is, the principal figures in Koch's movement. Koch himself announced a cancer cure a year after graduating from a medical college, the Detroit College of Medicine and Surgery. He immediately began a wide advertising campaign to sell his product which he called 'glyoxylide.' He formed the Koch Cancer Foundation, gathering around him a collection of known quacks and medical frauds. He then formed Koch Laboratories, Inc., which owned and manufactured Koch's so-called 'glyoxylide.' When Koch's claims gave him national notoriety, he immediately joined forces with the notorious Gerald B. Winrod, an alleged minister, Rev. Sam Swain and an undertaker who was a friend of Winrod. All had many times been openly branded as out-and-out Fascists. Indeed, Winrod was directly linked with the Silver Shirts in a 1940 report of the House Un-American Activities Committee. These individuals, following the path of the quacks for ages, changed the organization from Koch Laboratories, Inc., and sought to hide behind religious protection. They named their corporation the Christian Medical Research League of Detroit. Winrod, who immediately made claims publicly that Koch was 'the founder of a science which will in all probability revolutionize the medical profession,' was the editor of the Defender Magazine, a known anti-Semitic publication which, cloaked by a religious front, became the chief advertising medium for the Koch gang (of which Schirmer was one of the principal exponents), using his hospital as the chief testing ground. The Koch group set up in Detroit what they called 'The Lutheran Research Society,' which the Lutheran Church immediately branded as having no connection whatever with any legitimate Lutheran enterprise. Using this religious title, the group then published 'The Birth of a Science,' which was merely to spread the word of the wonders of Koch's nostrum. Although government and other reputable chemists and scientists branded Koch's 'glyoxylide' as a complete fraud, the group, by Hollywoodian advertising claims, amassed a fortune through its sale. Efforts to eradicate this menace were met with screams and cries of religious persecution. The true quack always assumes a religious front to protect him from a just accounting to the law. As stated by an outstanding writer on medical quacks:

" 'No Quack is a perfect Quack without a pretense of religion. Deprive him of religion and you deprive him of his strongest sales talk. In that respect the Quack differs from

the Bootlegger, Poacher and Abortionist. Religion is not regulated by law, until it interferes with the rights of the public. . . .'

"When the cold light of public scrutiny began to dissolve the Koch myth and after thirty years the so-called 'revolutionary science' had been shown to be what it was, a fraud and a delusion by a group of skillful propagandists, and when an aroused public began to move in on Koch, Winrod screamed that he was the victim of a diabolical plot by the Jewish race to prevent Koch and him from curing the world's ills. Winrod was labeled by the House Un-American Activities Committee: 'Gerald B. Winrod, Kansas preacher, Nazi protagonist and an unsuccessful candidate for the Senate.' Winrod was placed fourth on a list of organizations and individuals who took part in one way or another in an attempt to create a united Fascist movement.

"During all this time Schirmer's hospital was the principal focal point for the actual administering of this distilled water. Schirmer was busily engaged in piling up money at $25.00 per shot while assuring the Arkansas Eclectic Board that his motives were pure.

"The Rev. Sam Swain was a minister operating what was known locally as the National Gospel Center at Akron, Ohio. The files of the Bureau of Investigation of the American Medical Association state:

" 'On the fringe of quackery in religion and an out-and-out fascist. He is not a member of the Akron Ministerial Association, but is classed by this body as an itinerant evangelistic minister with a low rating of respectability in the community.'

"That Schirmer was a devout disciple of Koch, Winrod, et al., is evidenced from his letter to a friend in New Mexico on November 4, 1950, wherein he stated:

" 'I feel that each and every Doctor practicing medicine in the States owe Dr. Swain, Dr. Reilly and Dr. Winrod and the entire staff at Christian Medical Research Laboratories our most wholehearted appreciation of their efforts in manufacturing and distributing Glyoxylide and for their untiring efforts and constant fighting to promote and enlighten all of the merits of Glyoxylide.'

"This friend had written Schirmer at the suggestion of the Rev. Sam Swain who had informed him that Schirmer would advise him as to the Koch treatment. Although it is a violation of the Arkansas Statutes governing the practicing of medicine to claim to cure an incurable disease, this had very little meaning to Schirmer, who very glibly stated in his letter:

" 'I can go on for hours and give you case histories of patients who have recovered, but don't forget that my percentage of symptom free patients is only 70 per cent but about 90 per cent were given up to die.'

"When the Koch Foundation faded, and when Koch decided the seashores of Brazil were necessary for his health and Rev. Swain and Rev. Winrod entered the Courts battling over the dead corpus, Schirmer, with his customary ability, transferred his affections. He is now conducting 'The Affiliate Hospital of the Lincoln Foundation.' This report will not be complete without a mention of Schirmer's recent and latest enterprise. The Lincoln Foundation is a corporation formed to market a treatment for cancer, leukemia and incurable diseases by the method of inhaling a bacteriophage. This is a patented method of treatment by one Robert E. Lincoln of Medford, Massachusetts, who claims marvelous cures for incurable diseases by inhaling some substance through the nose. This so-called cure has been condemned as being worthless by the Massachusetts Medical Society study of the Lincoln therapy. Notwithstanding the sensational claims by Dr. Lincoln and notwithstanding a statement made in a Congressional investigation to the effect that Schirmer was treating seventy-five cancer patients at his 'affiliate hospital,' Schirmer appeared before the Eclectic Medical Board of this state (according to the minutes of that board of September 20, 1952) and on inquiry from the members of the board, stated that:

" 'The bacteriophage is a new medicine and at this time is used on human beings for experimental purposes only and that no claim is made by any doctor that it will cure anything.'

"This is an astounding statement in the light of the numerous patients suffering with incurable diseases which Schirmer has been handling in his Corning Hospital. The legal implications are rather severe, in that Schirmer would be legally responsible in damages for administering to human beings a supposed cancer cure which he himself reported was only in an experimental stage and was not claimed to be curative of anything. Nevertheless, the minutes of the Eclectic Medical Board reflect such a statement.

"In the spring of 1953, immediately after investigations were begun of Schirmer, he followed the pattern set by his predecessors and attempted to draw a religious veil across his operations. He deeded his hospital to certain trustees for the benefit of the Church of God of Arkansas. This deed was dated May 16, 1953, and was filed for record on May 22, 1953. Announcement was made that Schirmer had recently attended a church meeting and had been converted to this faith. An interesting feature of this conveyance is that some few days prior to the conveyance, a mortgage from the Corning Research Hospital, Inc. (which is Schirmer's corporation in which he held title to the hospital), to Schirmer's present wife, Helen J. Schirmer, in the sum of $24,488.69 was recorded at page 80 of Mortgage Book Record 30. This mortgage was dated November 1, 1951, but was not recorded until April 28, 1953, nor was it acknowledge by the Notary Public until April 28, 1953. This was just a few days before Schirmer got religion. May I call your attention to the fact that while the deed was dated November 1, 1951, and was purportedly signed by the corporation, the Corning Research Hospital, Inc. (by J. S. Schirmer, President, and Helen J. Schirmer, Secretary-Treasurer), this corporation was not incorporated until November 13, 1951, and was not in existence at the time the mortgage is purported to have been dated. It is interesting to note that there is also due and payable on these properties which Schirmer grandiloquently gave to the church, a mortgage for $18,950.00 executed December 18, 1946, on which there is a balance due to the R.F.C. and a mortgage from J. S. Schirmer to Sonja L. Schirmer (another wife) dated November 10, 1950, and filed for record February 5, 1951, securing the payment of $6,103.00 to Sonja L. Schirmer as a part of a divorce settlement. There is also on record a bill of sale from Dr. J. S. Schirmer to his son, Dr. J. F. Schirmer, conveying:

" 'All surgical and hospital supplies and equipment and all office supplies and equipment located in the Corning Hospital, Corning, Arkansas, including among other things X-ray machines, and supplies, operating equipment, lights, drugs, and surgical supplies and hospital beds, and equipment.'

"In the light of the assessed valuation of this property (the general taxes for 1952 were $115.00), it is doubtful that Schirmer transferred any equity value to the church, and leads to a conclusion that Schirmer was following the steps of his idol, Koch, in seeking to give to his activities a religious flavor. Certainly such act should not retard or prevent immediate action by the responsible officials of the State of Arkansas to prohibit further activity by this individual.

"Action by the State of Arkansas against Schirmer to prohibit his unlawful activities will undoubtedly be long and expensive. There is every indication that there is money in considerable amounts behind Schirmer, that this 'golden egg' will not be lightly relinquished.

"May I respectfully suggest in conclusion that there are reputable and responsible groups in the State of Arkansas who should be more than glad to join hands in an effort to eradicate this menace to the public health. Invitation should be given them to participate in all legal proceedings. This matter is so involved and so complex that all should be invited to participate who have as their objective the promotion of the public good and the public welfare."

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COUNCIL ON MEDICAL SERVICE

During the summers of 1952 and 1953 the Council's Committee on Extension of Hospitals and Other Facilities employed medical students from Northwestern University Medical School to study the physician placement programs of a number of state medical associations. Descriptions of five of these programs were published in THE JOURNAL *on Feb. 21, 1953. The following is the sixth in this series of articles.*—ED.

PLACEMENT OF PHYSICIANS IN ILLINOIS

The state of Illinois does not at the present time have a widespread shortage of physicians. There is a slight maldistribution of physicians, as in most states, with a relatively higher percentage practicing in urban areas than rural areas. Although the Physicians Placement Service that is operated by the Illinois State Medical Society has more than 130 locations listed as open, most of which are small communities, there is not a great deal of concern about the magnitude of the number. Many of these locations represent a vacancy created by the death of a practitioner who had been practicing there for many years. In many such instances these openings do not need to be filled. The other apparent reason for the open locations is that many Illinois physicians have been called into service with the armed forces. Helping communities that have lost their physicians to the armed services is one of the main functions of the Illinois Placement Service.

One factor that serves to produce a pseudoshortage is that many of the citizens consider it a hardship to travel a distance of several miles to the office of a physician. With the fine roads in Illinois, the Illinois State Medical Society will not recognize an area as inconveniently located unless it is a minimum of 10 miles from medical care.

The southern part of Illinois has a lower ratio of physicians to population than the northern part of the state. It is financially less attractive than the northern part, and its principal industry, which is mining, is now operating at a reduced pace. Until recently there were too few hospital facilities in the southern area and in the rural areas of Illinois generally. This served as a deterrent to young physicians. However, since the advent of the Hill-Burton Program, 25 of the 42 projects approved for Illinois have been completed. At least 15 of these new hospitals are located in southern Illinois, and the availability of these new facilities has eased the situation in this area by attracting physicians. Today no person in the state is more than 30 minutes from adequate medical care and hospital facilities.

CONDITIONS PREVENTING AN ACUTE SHORTAGE

Several factors collectively prevent a serious shortage of physicians from developing in Illinois. Illinois is fortunate in having five class A medical schools, which graduated 504 physicians in 1953. Of this number, 236 are residents of Illinois, many of whom will return to their home community or establish practice in other areas of the state. The relative wealth of Illinois and the fact that every area is reasonably near a large hospital or a medical center serve to attract physicians to establish practice in the state.

To assist physicians in finding a desirable area in which to establish practice or to relocate, the Illinois State Medical Society carries on an active program in its Physicians Placement Service. This service is a function of the office of the secretary of the medical society in Monmouth, Ill.

HISTORY OF THE PHYSICIANS PLACEMENT SERVICE

The Physicians Placement Service of the Illinois State Medical Society is an outgrowth of the Procurement and Assignment Service of World War II. The secretary of the society, Harold M. Camp, M.D., served as Illinois chairman of the Procurement and Assignment Service; when the "relocation" correspondence was transferred to the files of the society at the close of the war, the information contained in these files was used by the placement service until further data could be collected by questionnaires. Since the inception of the service, Mrs. Jane Swanson has been operating it under the direction of Dr. Camp. In recent years approximately 75 physicians have been placed, principally in communities in downstate Illinois. At present the service is corresponding with 135 physicians who have requested assistance in finding a suitable location. As a result of a press release on Jan. 15, 1953, concerning the Physicians Placement Service, the number of requests, from both physicians and communities, has taken a sharp turn upward.

OPERATION OF THE PLACEMENT SERVICE

Requests from Physicians.—Physicians are referred to the Illinois office by several organizations. The American Medical Association refers all correspondence to Illinois in accordance with the policy of referring all requests for assistance from communities and physicians to all states that have an adequate placement service. But the majority of requests received by the Illinois office are received directly from physicians, by mail and by personal visits to the office in some cases.

Although all requests receive the personal attention of Dr. Camp, Mrs. Swanson attends to the details such as sending a questionnaire to obtain information on the physician's educational background, his interests, and preferences as to type of practice, and especially his draft status. Upon return of the questionnaire the physician is sent a complete list of openings, including information on each location as to facilities for home life, office space, proximity to hospital facilities, and other information contained in a 30-page mimeographed booklet. Simultaneously the physician is notified by form letter that his name has been added to the mailing list and that he will receive weekly bulletins with information on new locations as they develop. All of the physicians requesting assistance from the Physicians Placement Service are listed regardless of whether or not they are members of a county medical society.

Physicians who wish to establish a general practice are assisted directly by the Illinois office. Those who desire an industrial or institutional position or wish to practice a specialty are first sent a list of openings in Illinois and then their request is referred to the American Medical Association, which sends them a list of all such openings in the United States. The A. M. A. also refers requests for a specialty opening to the national association of that specialty if it has a placement service.

Illinois uses two methods of "follow-up" on physicians to determine whether they are still available. The most frequent is a request, included in each weekly bulletin, that the physicians notify the office if they have decided upon a permanent location or if their status has changed in any way. The second is a special form letter sent at frequent intervals asking them for similar information.

The questionnaire, which the physician completes, contains such information as his citizenship status, religious affiliation, preference as to area in the state, and the type of practice that he wants to establish. Comprehensive information is recorded concerning his present draft status and service record. Unless the physician has contacted his draft board to ascertain approximately when and if he will be called into service, he is urged to do this before arranging to set up practice. The expense of setting up practice by the young physician, coupled with the fact that it is unfair to the community to fill a location temporarily when it might be filled shortly by a physician who would be permanent, are two points used to dissuade a draft-eligible physician from setting up practice. On the other hand, if the area has a high priority rating of need, both community and physician may feel even a tem-

porary practice worth while, in view of the possibility of one or more deferments while attempts are being made to find a replacement for him.

Requests from Communities.—The placement service is informed of communities in need of additional physicians by several means. Frequently, responsible citizens or overburdened physicians in a community will write to the Physicians Placement Service and occasionally committees representing a community will visit the office. However, all requests that have been made to the American Medical Association, the Illinois State Health Department, and Illinois Farm Publications are referred to the placement service. When informed of a community in need of a physician, the placement service sends out several questionnaires to obtain information on the location as well as to verify the need and determine the severity of the need.

The first questionnaire to the correspondent in the community must be completed and returned before the opening will be listed. Another questionnaire is sent to the secretary of the county medical society in the county in which the opening is located. In addition to this questionnaire, the placement service sends the community information on ways and means of attracting a physician. However, unless a community specifically requests a list of physicians who are available, the placement service does not send out the list of names. It would require extensive work and facilities for a community to contact the large number of physicians on the list, so the office of the placement service performs this service for the community for no charge.

The principal points of interest to a physician are extracted from all of the questionnaires and recorded. The location is immediately publicized in the weekly bulletin sent to all physicians on the mailing list. Later the opening is included in a mimeographed booklet that is sent to all physicians who subsequently are added to the mailing lists. In addition, the American Medical Association is informed so that physicians visiting its office in Chicago may obtain complete information on Illinois. To satisfy the community that the placement service is giving its request adequate attention, the community will also receive a copy of the section of the bulletin containing the release listing the community. As a "follow-up" on the opening, the placement service sends out form letters at intervals of six months inquiring of the original correspondent whether or not the opening has been filled.

Unfortunately, there are times when an opening is filled when neither the new physician nor the community informs the placement service. Many physicians using the services offered to them by the placement service establish practice in areas about which they have learned in visiting the openings listed by the placement service or return to their home towns to practice; this frequently makes medical service available to another nearby community that has been in need of a physician. Failure to notify the placement service in such instances results in additional work for all concerned.

Many communities, however, have informed the office when a physician has established practice in the community or within a convenient traveling distance. Likewise, physicians have notified the office as to the locations they have taken. These letters from the physicians and community are sent in spontaneously or as a result of the "follow-up" letters which the office sends out at frequent intervals. Another source the placement service has for determining the openings which have been filled is the lists of new members of county medical societies that are reported to the state office of the medical society.

Study of Openings.—Illinois investigates carefully each request from communities. Although a representative of the placement service is not sent to investigate the openings at the present time, information that can be used to evaluate the degree of need, as well as attractiveness to a physician, is obtained from the questionnaires that are completed by residents of the community. In these questionnaires, the number of physicians serving the area and their ages are recorded. If no physician is located there, then the distance which the people of the area must travel to reach medical care is included along with the reasons why there is no physician there now, or why the last physician left. The nearest hospitals are listed, and considerable economic information concerning the area is added. Any special arrangements that the community has made to attract a physician such as providing housing, office space and equipment, and any financial assistance that the community is offering are appended.

In the questionnaire sent to the secretary of the county medical society, questions that can best be answered by a professional person are listed. Information is obtained concerning the nearest hospital in which a new physician has reasonable assurance of staff privileges and the policy of the hospital concerning citizenship requirements for staff membership. Also included are questions relative to any special arrangements by which a new physician could augment his income.

The questionnaires contain, in addition to the above, the personal opinion of each writer as to the validity of the request for more medical personnel and the desirability of the location to a physician. These opinions, in addition to the body of information on the opening, plus any items of information contained in personal letters or within the personal knowledge of the state secretary, are all used in establishing the need and attractiveness of the opening. Dr. Camp does not believe that a visit by a representative of the state office would serve more effectively to evaluate the opening. He is of the opinion that the completeness of the information on the opening sent to available physicians allows them to judge for themselves. If sufficiently interested, they will be prompted to visit the location personally to become acquainted with all of the features that by their nature cannot be summarized in a letter.

Policy Toward Communities That Do Not Need or Cannot Support a Physician.—Communities that request aid in finding a physician are investigated thoroughly by the placement service. Unless the need is proved to be bona fide, the community is not listed as a desirable location, but, for the sake of public relations, this is being considered. There are frequent letters from persons who have office space to let or a home to sell stating there is a wonderful opportunity for a physician to establish a practice in that community and, fortunately, there is a home for sale or office space to let. These requests are investigated and passed over unless a need is established.

Dr. Camp states that frequently people are naive as to the cost of medical education and the expense of setting up a practice and expect a physician to locate in their community even though it could not possibly support him. He attempts by direct contact when possible to inform people of the expense of education and of setting up practice and of the fact that a physician is justified in expecting his practice to support him. Communities are notified when they are in an area where medical care is readily available if this fact is established by the placement service office or that the area is so sparsely settled that it could not support a physician. In the latter case, if there is need, the community is urged to undertake a program to provide emergency transportation to the nearest medical facilities such as the establishment of an ambulance service by the local undertaker or volunteer fire department.

Requests have come from small communities adjoining large towns where complete medical and diagnostic facilities are available. In such cases the local citizens desired a physician to provide a more rapid emergency service or to take night calls. When questioned, most persons would go to the nearby city "where better facilities would be available" for chronic ailments, special examinations, or even nonemergency services in preference to using a physician who might set up practice there. Dr. Camp is rather impatient with this attitude

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and straight-forward in explaining that they will of necessity use the nearby medical center as he will not help the town secure a "first aid man."

Recently, a small town was called to the attention of the placement service. At the turn of the century two resident physicians were located there. Within the radius of 10 miles, there were a total of 16 physicians in the horse and buggy days. Today this small town has no physician, and within the 10 mile radius there are two physicians who cover more territory and see more patients during the year than the 16 did in the old days. With the all-season roads, use of cars, and with modern facilities, there are no instances where a physician could not be available within a short time even for emergencies in Illinois.

Aiding Communities to Attract Physicians.—The Illinois Physicians Placement Service assists small communities to develop programs to attract physicians. The questionnaire to a community suggests such things as offering home facilities and office facilities. Each community is sent a reprint from the *Farm Journal* on "How to Get a Doctor," which has many suggestions, and in addition, a reprint of "If Your Town Needs a Doctor—Elletsville Shows the Way" from *Progress in Health Service,* published by the Health Information Foundation.

As reported in the Annual Reports of Officers and Committees to the House of Delegates of the Illinois State Medical Society, it is commonly the policy of the placement service to "insist that towns needing a physician have a suitable home and office space for the new doctor, before [the community is added to the list of prospective locations]. A number of them have also accumulated a sum of money placed in a local bank, from which the physician can draw at a low rate of interest, to aid in purchasing equipment, household goods, and perhaps make the first payment on the needed car. One community recently wrote stating that a home and office were available for a doctor, and there would be no rental charge the first year, and not until the practice would justify the additional expense." [1]

Effort to Publicize the Physicians Placement Service.—As a result of a state-wide press release on Jan. 15, 1953, describing the activities, accomplishments, and the services of the Physicians Placement Service of the Illinois State Medical Society, there has been an increasing number of communities requesting assistance. The fact that the services of the placement office are available for no charge to either physician or community induces many to contact the placement office. Last winter the journal of the state medical society carried an editorial concerning the placement service, and each month the office of the secretary sends out a newsletter. Beginning July 1, 1953, the newsletter will include reference to the activities of the placement service.

In the winter of 1951 the state medical society sponsored a dinner in Chicago for the interns and residents in the Chicago region. The discussion on physician placement and an invitation to all to use the service resulted in considerable response. Since this dinner was so successful, plans are being made for similar dinners in the future.

Plans for the Future.—The Illinois office has recently changed the style of the mimeographed booklet containing the list of the communities in need of a physician to the short page, single entry style used by the placement service of the American Medical Association. To further aid the communities in developing programs to attract physicians, the pamphlets prepared by the American Medical Association entitled "A Doctor for Your Community" and "Physicians Placement Service" will be widely distributed. Reprints of "Country Doctor—Does Your Community Need One?" from *Farm and Ranch* will be distributed also. To further aid the inquiring physicians, additional information and printed material will soon be sent to them. Information on the per capita wealth of each county in the state will be supplied by the Illinois Public Aid Commission. Complete data on each approved hospital in the state is being compiled and will be furnished in addition to reprints of "Rural Practice Can Be Fun" from the *Journal of the Student American Medical Association.* At the present time, work is underway on the preparation of a brochure containing a scenic and historic map, a road map of Illinois, letters of invitation, and complete descriptions of all counties and locations needing a physician.

Since the relatively small amount of publicity of the placement service of Illinois has yielded so many requests, it is planned to further publicize the services that the Illinois State Medical Society offers to communities and physicians. The state of Illinois is indeed fortunate in having such a progressive, well organized Physicians Placement Service.

ACTIVITIES RELATED TO THE PLACEMENT PROBLEM

There are many factors contributing to the shortage of physicians in rural areas. The maldistribution of physicians between the rural and urban areas is the predominant cause. Encouraging physicians to establish practice in rural areas is one means of alleviating the shortage. Another means is to increase the supply of general practitioners so that the rural areas will get more physicians. By providing a placement service designed to aid especially the rural areas, the Illinois State Medical Society is partially alleviating the shortage. This direct effort on the part of the medical profession is supplemented by other activities designed to interest physicians in general practice and in locating in small communities.

Loan Funds.—The Illinois State Medical Society and the Illinois Agricultural Association have a joint fund that now grants $1,250 annually for four years of their training prior to internship to each of 10 students. These students are selected from the 10 Illinois counties most in need of physicians. The loan is made for four years at 2% interest per annum and the student may attend any class A medical school. In return, the student agrees to return to a community in an approved county of less than 5,000 to practice for a minimum of five years. During these five years of practice the young physician has opportunity to repay the loan according to the original contract. There are at present 42 students in various phases of their medical education or military career under this program.

Curriculum Programs.—The University of Illinois College of Medicine has an internship designed to prepare physicians for general practice. Although the internship is open to all students, it is especially designed for students who expect to practice in rural areas.

Plans are being studied for selective admission to the school to encourage the location of graduates in small towns and rural areas. Also being studied is a program for the establishment of extramural faculty positions and supervised residencies in rural hospitals.

Stritch School of Medicine of Loyola University has placed particular emphasis on general practice in the training of its students. The school catalogs material on rural opportunities and supplies information and advice on these openings to returning students, interns, and others. This service is to be extended and further publicized through the school's alumni newspaper.

Postgraduate and Refresher Courses.—The University of Illinois College of Medicine offers a program of postgraduate studies for general practitioners in rural and urban areas.

1. Annual Reports of Officers and Committees, 1953 Annual Meeting, Chicago, Illinois State Medical Society, 1953, p. 22.

The Committee on Postgraduate Education of the Illinois State Medical Society presented nine major and three minor conferences throughout the state in 1952. At each program the staff from a prominent hospital or one of the five class A medical schools in the state presented a program on selected medical topics. All the physicians in a wide radius were invited to attend, and each program was well received by those attending. This committee has recently undertaken to raise funds for a detailed survey of postgraduate education in Illinois.

Clinics.—The University of Illinois Division of Services for Crippled Children holds general clinics for handicapped children at various locations throughout the state each month.

Associated Programs.—The Illinois State Medical Society and the Illinois Agricultural Association cooperate in attempting to increase medical service throughout the state. In 1951, for instance, they persuaded the University of Illinois College of Medicine to admit 15 more students to the freshman class.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

MEDICOLEGAL ABSTRACTS

Blood Transfusion: Death from Hepatitis Following Use of Pooled Blood Plasma.—This was an action for damages seeking to impose liability on the State of New York for the death of the decedent as a result of virus infection caused by transfusion of pooled blood plasma distributed to the hospital by the state at the request of the Red Cross. The court of claims entered a judgment dismissing the claim (Parker v. State, 105 N.Y.S. (2) 735; *J. A. M. A.* **148:**1359 [April 12, 1952]), and from this judgment the plaintiff appealed to the supreme court, appellate division.

After the close of the last war, quantities of dried blood plasma, which had been collected from donors by the American Red Cross for the armed services, were declared surplus property by the government and turned back to the Red Cross to distribute for charitable purposes under the authority of a federal statute. The Red Cross requested the various states to undertake the free distribution of the plasma to hospitals for public use and the health department of the State of New York undertook the task of distributing within the state. Through the local agency of the Red Cross in Westchester County, some of it was sent by the state in 1947 and 1948 to the Northern Westchester Hospital at Mt. Kisco.

It was known to the medical profession, from the experience that had been gained with whole blood transfusions and with transfusions derived from dried blood plasma, that there was some risk of transmitting virus diseases, especially a form of serum jaundice, and that this risk was greater in the case of pooled dried plasma because the virus of one infected donor would contaminate the rest of the plasma with which it was in contact in the same container. Nevertheless there were circumstances when sound medical judgment indicated the use of pooled dried plasma. There are varied expressions in the record before us, said the court, as to the risk involved in the use of this type of plasma and the limitations of its use. A good statement is contained in the report of the Committee on Blood and Blood Derivatives of the American Red Cross, copies of which were sent to all state health officers in August, 1947. The report was published in the *Journal of the American Medical Association*, November 15, of that year. The conclusion of this statement, on which the plaintiff places heavy emphasis here, is that all practicing physicians "should be reminded" of the "potential risk" in the administration of pooled plasma and should be "urged to restrict its use" to "chiefly serious emergencies, when its use is clearly indicated and when safer agents such as whole blood or serum albumin are not available."

On the morning of Nov. 21, 1948, the claimant's husband was found unconscious along a road. He was picked up by a passerby and taken to the Northern Westchester Hospital. He had a cerebral concussion and was in shock and critical condition. A physician, who undertook his treatment at the hospital, prescribed a transfusion of blood plasma. Plasma that the Red Cross had received from the government and that the New York Health Department had distributed for the Red Cross was used for this purpose. The plaintiff recovered from the acute effects of the concussion and was discharged from the hospital as improved after eight days. A little over two months later, he became ill from a form of serum jaundice and died on Feb. 12, 1949.

The Court of Claims found the jaundice infection and death the result of transmission of the virus by the transfusion derived from the pooled plasma, but it granted judgment dismissing the claim on the ground that the state thereby incurred no tort liability. The state in undertaking to distribute the plasma to hospitals for the Red Cross, said the appellate division, had a right to expect two things, (*a*) that the hospitals would be guided by the judgment of the medical profession in the circumstances indicating the use of the plasma and (*b*) that the profession would use an accepted standard of professional judgment in prescribing its use. If a physician prescribed the serum mistakenly or by an erroneous professional judgment, the legal responsibility for such an error could not be brought home to the state under any admissible theory of tort liability merely because it had acted for the American Red Cross as an agent of distribution. The record demonstrates that there are circumstances in which careful medical judgment would regard the immediate institution of shock treatment as outweighing greatly the mathematical possibility of virus infection. There is proof that there were other and possibly "safer" types of transfusion material in the hospital, but the record would sustain a finding that the plasma could more quickly be brought into use, when the hour of admission of the patient to the hospital and the need for preliminary blood tests, requiring the availability of both time and technicians, are kept in mind.

We must assume from the record, the court continued, that the physician's course of treatment was based on sound medical judgment. Certainly the state would incur no tort liability if the physician who treated the patient had acted with that kind of medical judgment. Even if he had acted mistakenly or had made a wrong decision, the state would not be responsible unless in the exercise of reasonable care it could be required to foresee such a result. The state was bound to know that the use of this type of plasma involved some risk, but with that knowledge it also knew that its use was justifiable when the risk involved ought, in good medical judgment, to be taken. It had a right to expect that the profession would use an agency of limited medical usefulness under limited conditions. The level of expectation of danger imposed on the State did not rise above that which would be required of a reasonably well-informed medical officer in carrying out the distribution program of the Red Cross, and the state could rest safely in the expectation that the plasma would be used in a recognized hospital only under competent professional prescription. We are of opinion that the state's liability has not been demonstrated.

Accordingly the judgment of the Court of Claims in favor of the State of New York was affirmed. *Parker v. State, 112 N. Y. S. (2d) 695 (New York 1952).*

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A. Arch. Dermat. and Syphilol., Chicago

68:1-118 (July) 1953

Reticuloendothelial Cell Hyperplasia in Relation to Antimonial Therapy of Mycosis Fungoides. J. Garb and C. F. Sims.—p. 1.
Clinical Evaluation of Topically Applied Estrogen Cream in Acne Vulgaris. H. H. Sawicky, J. L. Danto and W. S. Maddin.—p. 17.
Angiokeratoma Corporis Diffusum. M. Ruiter.—p. 21.
Changes of Climate and Environment in Treatment of Dermatologic Diseases: Effect on Neurodermatitis and Certain Other Chronic Dermatoses. L. M. Smith and H. D. Garrett.—p. 28.
Epidemic Favus of Glabrous Skin. I. M. Fishman.—p. 38.
Ocular Psoriasis: Clinical Review of Eleven Cases and Some Comments on Treatment. R. Kaldeck.—p. 44.
Eosinophilic Response After Inunction of Hydrocortisone Ointment: Experiments Demonstrating Lack of Significant Absorption and of Systemic Effects. C. C. Smith.—p. 50.
Problems of Military Dermatology. R. R. Kierland.—p. 54.
Physical Allergies. R. R. Kierland.—p. 61.
Etiology of Nummular Eczema. L. P. Fowle and J. W. Rice.—p. 69.

A.M.A. Arch. Ind. Hyg. & Occupat. Med., Chicago

8:1-96 (July) 1953

*Beryllosis: Summary and Survey of All Clinical Types Observed in 12 Year Period. J. M. DeNardi, H. S. Van Ordstrand, G. H. Curtis and J. Zielinski.—p. 1.
Industrial Hygiene in Latin America. J. J. Bloomfield.—p. 25.
Noise and Audiometric Histories Resulting from Cotton Textile Operations. J. R. Cox Jr., R. H. Mansur and C. R. Williams.—p. 36.
Nickel Poisoning: I. Experimental Study of Effects of Acute and Subacute Exposure to Nickel Carbonyl. J. F. Kincaid, J. S. Strong and F. W. Sunderman.—p. 48.
Physical Medicine and Rehabilitation as Related to Industrial Health. F. H. Krusen.—p. 61.
New Approaches to Health Hazard Evaluation of Pesticides. K. Kay.—p. 70.

Beryllosis.—The largest number of cases of acute beryllium intoxication have occurred in plants engaged in the extraction and processing of beryllium, and the largest number of cases of chronic berylliosis have been reported in connection with the manufacture of fluorescent lamps. Since 1940 DeNardi and associates have treated 468 patients with various types of beryllium intoxication observed among workers in three plants with a total employment of 3,027 persons and a present active personnel of 369. Among the 431 patients with acute beryllium intoxication, there were 10 fatalities in the pneumonitis group. The incidence of cutaneous berylliosis among workers in the beryllium industry has been reduced in recent years by preventive measures from 25 to 2% and the respiratory syndromes almost to zero. The eczematous type of dermatitis is caused by allergic sensitivity to beryllium compounds. Beryllium patch tests on patients with berylliosis, on controls, and in similar pathological conditions suggest that beryllium dermatitis is due to hypersensitization and that the patch test is an important tool in differential diagnosis. Clinical and laboratory data were obtained on 75 patients who recovered from tracheobronchitis and pneumonitis. Eight deaths occurred among the 37 patients who had chronic types of beryllium intoxication. The presence of beryllium in tissues and in urine is indicative of exposure to beryllium. The amount detected by present analytic methods does not bear any relationship to the diagnosis of berylliosis per se or to the severity of the disease if present. Beryllium remains in tissues and is excreted for years after the patient has been removed from exposure and is without evidence of beryllium poisoning. No persons included in the survey of patients recovering from acute pneumonitis developed the chronic or delayed form of berylliosis. Of the eight instances of chronic berylliosis of occupational origin, one patient had a medically established diagnosis of acute tracheobronchitis, while four others gave histories suggestive of acute tracheobronchitis during brief occupational exposures to beryllium. Treatment of berylliosis is mainly symptomatic, but recent observations suggest benefit from the use of corticotropin and cortisone in both the chronic and the acute manifestations.

A.M.A. Arch. Neurology and Psychiatry, Chicago

70:1-136 (July) 1953

*Progressive Neuropathic (Peroneal) Muscular Atrophy (Charcot-Marie-Tooth Disease): Histological Findings in Muscle Biopsy Specimens in Fourteen Cases, with Notes on Clinical Diagnosis and Familial Occurrence. A. Brodal, S. Bøyesen and A. G. Frøvig.—p. 1.
Studies on Blood-Brain Barrier with Radioactive Phosphorus: III. Embryonic Development of Barrier. L. Bakay.—p. 30.
Clinical Significance of Sclerosis of Cornu Ammonis: Ictal "Psychic Phenomena." K. Sano and N. Malamud.—p. 40.
Agonal Nature of Cerebral Ring Hemorrhages. J. Cammermeyer.—p. 54.
*Neural Toxicity in Tuberculous Patients Treated with Isoniazid (Isonicotinic Acid Hydrazide). G. D. Gammon, F. W. Burge and G. King.—p. 64.
Effect of Retrochiasmal Lesion Upon Variability of Absolute Visual Threshold. H. P. Krieger.—p. 70.
Effects of Aging on Cerebral Circulation and Metabolism. P. Scheinberg, I. Blackburn, M. Rich and M. Saslaw.—p. 77.
Central Neurological Complications of Hypoparathyroidism. O. Sugar.—p. 86.

Progressive Neuropathic (Peroneal) Muscular Atrophy.—Brodal and associates point out that most neurologists believe that one is justified in considering as a disease entity the condition variously called "peroneal muscular atrophy of the Charcot-Marie-Tooth type," "progressive neuritic muscular atrophy," or "spinal neuritic form of progressive muscular atrophy." The available evidence concerning its etiology is in favor of a disorder of the spinal cord and of peripheral nerves being the primary process, the muscular changes being secondary. The authors report histological observations on 20 muscle biopsy specimens from 14 patients with progressive neuropathic muscular atrophy of the Charcot-Marie-Tooth type. Eight of the patients were reexamined clinically after periods of up to 11 years. The mode of inheritance appears to be dominant. In early stages atrophy of muscle fibers in groups was typical. There was some increase in the hypolemmal nuclei and in connective tissue, but less in adipose tissue. Some fibers were hypertrophic. In disease of more than four years' duration atrophy of fibers in groups was still present, but less prominent. There was greater increase in connective tissue and a definite increase in hypolemmal nuclei. Degenerative changes in the nuclei (pyknotic nuclei, nuclei with a halo, "sick" nuclei) became conspicuous, as well as degeneration of sarcoplasm (granulation, vacuolation, cloudy swelling) and disintegration of myofibrils. Structurally preserved but extremely atrophic muscle fibers may, however, be seen even in cases of long-standing disease. The histological findings are compared with those in amyotrophic lateral sclerosis and other progressive muscular atrophies due to disease of peripheral motor neurons and with those occurring in peripheral nerve injuries in man and animals. It is concluded that the muscular changes in the disease under consideration are due to a disorder of peripheral motor neurons. The affected muscle fibers may either atrophy slowly and reach a very advanced degree of atrophy with preservation of their cross striations, or they may undergo degeneration at a relatively early stage. The occurrence of degenerative changes does not necessitate the assumption of factors other than denervation as responsible for the muscular changes. The more frequent occurrence of degenerative changes

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Titles marked with an asterisk (*) are abstracted.

in the muscle fibers and their nuclei in Charcot-Marie-Tooth atrophy than in other muscular atrophies due to disease of peripheral motor neurons may be explained by the longer duration of the disease, time being available for the late stages of the process to develop. Muscle biopsies on patients suspected of having the Charcot-Marie-Tooth type of atrophy may be of diagnostic value.

Neural Toxicity in Tuberculous Patients Treated with Isoniazid.—Gammon and associates describe a new syndrome of neural toxicity that they observed in tuberculous patients treated with isoniazid. The fully developed syndrome apparently has not previously been described, and no suggestion of it appeared in the animal studies. The patients all had advanced pulmonary tuberculosis and had received a large quantity of the drug. The authors examined 14 patients from a larger group of 46 with similar complaints observed in a series of 408 patients receiving the drug. Tingling or painful paresthesias of the feet and legs were followed by weakness or paralysis, with loss of deep reflexes first at the ankles and then the knees. The hands were affected in a few instances. The process was subacute and subsided promptly on withdrawal of the drug, unless it had progressed to a severe stage; in that case several weeks were required for even partial recovery. The dose which induced these signs varied from 4.5 to 13.5 mg. per kilogram of body weight and was in the range in which toxicity is to be expected. The neuropathy puts a limitation on therapy with higher doses. Since this paper was presented, peripheral neuropathy has been mentioned as a toxic side-effect of therapy with hydrazide derivatives of isonicotinic acid in another report, but no details of the cases were reported.

A.M.A. Arch. Surgery, Chicago

67:1-128 (July) 1953

*Clinical Analysis of Billroth I and Billroth II Subtotal Gastric Resections. H. G. Moore Jr., R. J. Schlosser, J. K. Stevenson and others.—p. 4.

Experimental Gastrojejunal Ulcers Produced by Reversing Duodenum. J. M. Hammer, F. Visscher and E. J. Hill.—p. 23.

*Bleeding Peptic Ulcer. H. C. Saltzstein, M. S. Mahlin and S. R. Scheinberg.—p. 29.

Peripheral Embolization Following Mitral Commissurotomy. F. Tropea Jr. and J. Entine.—p. 43.

Acute Pancreatitis Associated with Necrosis and Perforation of Common Bile Duct. J. Zaslow.—p. 47.

Hemorrhagic Ascites and Hemothorax Associated with Benign Pancreatic Disease. E. B. Smith.—p. 52.

Postoperative Loss of Sugar in Urine Following Intravenous Infusion of Fructose (Levulose). J. A. Moncrief, K. B. Coldwater and R. Elman.—p. 57.

Small Bowel Obstruction: Complication of Combined Abdominoperineal Excision of Rectum. G. L. Watkins Jr.—p. 61.

Carcinoma of Stomach Following Gastroenterostomy for Duodenal Ulcer. L. A. Stirrett and J. M. Beal.—p. 63.

Acute Intussusception: Analysis of 116 Cases at St. Louis Children's Hospital. D. L. Thurston, J. Holowach and E. E. McCoy.—p. 68.

Radioiodine Tracer and Biopsy in Diagnosis and Treatment of Hyperthyroidism. C. F. Baumeister.—p. 80.

Biliary-Tract Surgery in Elderly Patients. K. B. Lawrence, K. Merrill Jr. and G. Arnold.—p. 92.

*Familial Pheochromocytoma: Report on Three Siblings with Bilateral Tumors. G. M. Roth, N. C. Hightower Jr., N. W. Barker and J. T. Priestley.—p. 100.

Cysts About the Pericardium. C. Davis Jr., J. Dorsey and E. Scanlon.—p. 110.

Clinical Analysis of Subtotal Gastric Resections.—Subtotal gastric resection as practiced today conforms to one of two general types, depending upon whether the duodenum or the jejunum is utilized for the reestablishment of gastrointestinal continuity. If the duodenum is utilized, the operation is known as a Billroth 1; if the jejunum is employed, the procedure is a Billroth 2, or one of its modifications. The material for this study includes all gastric resections, except total gastrectomies, performed in a Seattle hospital from Jan. 1, 1948, through March 31, 1952. The decision whether the reestablishment of continuity would be according to the Billroth 1 or the Billroth 2 technique depended on the preference of the surgeon. Many of the Billroth 2 operations might have been done as Billroth 1 procedures, if the operating surgeons had so preferred. The Billroth 1 resection was performed in 104 patients and the Billroth 2 resection in 135 patients. These two series were compared from the standpoint of age, sex, duration of history, indications for surgery, pathology, postoperative complications, and follow-up evaluation. A comparison was made also with similar studies made elsewhere. Data on extent of resection indicate that it is possible to do an adequate resection by the Billroth 1 method. The incidence of dumping for the two series is essentially the same. In 6.5% of the Billroth 1 procedures the results were considered poor, in contrast to 25% of the Billroth 2 procedures. The over-all mortality rate for the Billroth 1 series was 3.8%; 7.4% for the Billroth 2 group. In cases of peptic ulcer the mortality rates are 2.2 and 8.2% respectively. Postoperative body weight was better maintained in the Billroth 1 than in the Billroth 2 group. There were no recurrent ulcerations in the Billroth 1 series. There were three known and two possible recurrent ulcerations in the Billroth 2 series. The Billroth 1 operation can and should be employed oftener. At the authors' hospital, the Billroth 1 resection is now performed more frequently than the Billroth 2.

Bleeding Peptic Ulcer.—Saltzstein and associates analyze 402 cases of massive upper gastrointestinal hemorrhages observed at Harper Hospital in Detroit over a period of five years. There were 343 cases of peptic ulcer (278 duodenal, 53 gastric, and 12 marginal) and 59 cases of upper gastrointestinal bleeding. Ten per cent of the hemorrhages from peptic ulcer were severe; shock was prevented only by the administration of 500 cc. of blood every eight hours. Of the 343 patients 275 were treated medically and 68 were treated surgically. Four-fifths of those treated surgically bled mildly, but many had bled previously. Four deaths (5.9%) occurred in the surgically treated patients and 14 (5.1%) in the medically treated. Several of the deaths in the medically treated patients occurred in those with associated cardiovascular conditions. The anoxia of gastrointestinal hemorrhage may have precipitated cardiovascular accidents. Three of the 14 patients who died while under medical management died in shock of uncontrolled hemorrhage. Half of the 343 patients with bleeding peptic ulcer had hematemesis, and half had melena, but of the 18 who died 14 had hematemesis and 4 had melena. Pyloric obstruction did not increase the seriousness of the bleeding. Five of the 343 patients had associated perforation. The fatalities from bleeding gastric ulcer were three times as high as those from bleeding duodenal ulcers. About half of the fatalities occurred during the first episode of bleeding. The treatment of massive upper gastrointestinal hemorrhage consists of giving sufficient blood to prevent the ill effects of anoxia on the liver, the myocardium, and the brain. The decision to operate does not necessarily have to be made in 48 or 72 hours if the patient can be maintained without anoxia. Patients with repeated bleeding, in whom the blood pressure drops while they are under observation, should be operated on before leaving the hospital, because of the likelihood of sudden fatal hemorrhage occurring months afterward. Of the patients with acute hemorrhage from peptic ulcer, 10 to 15% have no ascertainable history of ulcer; this is especially true of older patients. Uncontrollable hemorrhage following resection frequently comes from the duodenal stump, may come from the anastomotic suture line, and sometimes may be relieved by manually evacuating large clots from the residual gastric stump. This may allow the stomach to contract sufficiently to arrest the bleeding.

Familial Pheochromocytoma.—This report is concerned with the diagnosis and successful removal of bilateral pheochromocytomas in two sisters and a brother. The first patient, an 18-year-old girl, was admitted to the Mayo Clinic with the chief complaint of blurring of vision. The family physician had found albumin in the urine and a blood pressure of 200/160 mm. Hg. Rest in bed, sedation, and low-salt diet were without benefit. Approximately one week before admission to the clinic, the patient had noted dull frontal headache and occasional dull pain in the right costovertebral angle. The tentative diagnosis was malignant hypertension. Careful questioning revealed that for several months the patient had been aware of tachycardia and that for the past five years she had experienced episodes of palpitation followed by generalized weakness of two to three days' duration. Four months before admission her blood pressure had been recorded as normal.

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In view of the positive results of tests for pheochromocytoma, the relatively short clinical history of severe hypertension in a young woman, and the marked fluctuations in blood pressure, exploratory operation was deemed advisable. A multilobulated tumor was found on each adrenal and was removed. One year after operation her blood pressure was 110/68 mm. Hg. She appeared to be in excellent health and had had no recurrence of symptoms. A histamine test for pheochromocytoma at this time gave negative results. The patient stated that her sister had high blood pressure. Familial occurrence of pheochromocytoma was suspected. This suspicion proved to be true; bilateral pheochromocytomas were subsequently removed from the 28-year-old sister and from the 25-year-old brother. It was also ascertained that the father of these three patients had died at the age of 42 from a cerebrovascular accident with a history of attacks suggestive of pheochromocytoma. This is probably the first report of the diagnosis and successful removal of bilateral pheochromocytomas from three members of the same family and of the removal of bilateral pheochromocytomas at a single operation. The authors state that Calkins and Howard diagnosed bilateral pheochromocytomas in 1947, and pointed out the familial incidence, one of their patients being the niece of the other.

Alabama State Medical Assn. Journal, Montgomery

23:1-34 (July) 1953

Surgical Treatment of Pain of Malignancy. W. B. Patton.—p. 1.
Gynecologic Cancer. W. N. Jones.—p. 4.
Lymphoblastoma. W. D. Anderson.—p. 6.
Malignancies in Childhood: Report of Case of Rhabdomyosarcoma. S. F. Davis and K. Hare.—p. 10.
Carcinoma of Larynx. H. S. J. Walker Jr.—p. 14.

American Journal of Clinical Pathology, Baltimore

23:623-730 (July) 1953

Clinical Assay of Blood Coagulation Factors. F. D. Mann.—p. 623.
Turbidimetric Determination of Modified Gelatin in Biologic Materials. C. J. Rogers.—p. 638.
Measurement of Serum Cholinesterase Activity by Photometric Indicator Method Together with Study of Influence of Sex and Race. J. G. Reinhold, L. G. Tourigny and V. L. Yonan.—p. 645.
Paper Chromatography of Urinary Metabolites of Pentobarbital. E. J. Algeri and A. J. McBay.—p. 654.
Blood Mediums for Cultivation of Mycobacterium Tuberculosis: V. Results with Agar-Agar Basal Medium and Varying Concentrations of Blood, Glycerine and Penicillin. M. S. Tarshis.—p. 661.
Human Plasma and Blood Agar for Cultivation of Tubercle Bacilli. M. E. Clark.—p. 671.

American Journal of Medicine, New York

15:1-140 (July) 1953

*Diagnosis of Mitral Regurgitation: An Evaluation of Clinical Criteria, Fluoroscopy, Phonocardiogram, Auricular Esophagogram and Electrokymogram. W. H. Abelmann, L. B. Ellis and D. E. Harken.—p. 5.
Early Changes of Mitral Valve Function in Rheumatic Heart Disease: Clinical, Phonocardiographic and Electrokymographic Study. A. A. Luisada and G. Magri.—p. 25.
Quantitative Effects of Medical and Surgical Treatment of Mitral Stenosis on Exercise Tolerance. R. A. Bruce and D. L. Rodgers.—p. 35.
Certain Abnormal Circulatory Dynamics of Mitral Stenosis Associated with Major Degree of Regurgitation. P. T. Kuo and T. G. Schnabel Jr.—p. 50.
Ventilatory Studies in Mitral Stenosis: Comparison with Findings in Primary Pulmonary Disease. N. R. Frank, D. W. Cugell, E. A. Gaensler and L. B. Ellis.—p. 60.
Occlusive Auricular Thrombi. J. B. Wallach, L. Lukash and A. A. Angrist.—p. 77.

Diagnosis of Mitral Regurgitation.—Abelmann and associates point out that criteria for the diagnosis of mitral regurgitation are undergoing a reexamination, because, while mild regurgitation may not affect either the operative risk or the prognosis of mitral valvuloplasty and may even be partially corrected by valvuloplasty, marked regurgitation affects the prognosis unfavorably and is a contraindication to the conventional finger fracture valvuloplasty or commissurotomy. They review the clinical diagnostic findings in a group of 63 patients with rheumatic mitral stenosis who underwent mitral valvuloplasty. Fatigability, apical systolic murmur, heart chamber enlargement, systolic expansion of the left auricle on fluoroscopy, auricular border electrokymogram and esophagogram, as well as the relationship of the timing of heart sounds in respect to cycle length as shown by the phonocardiogram, were evaluated as criteria of mitral regurgitation in patients with rheumatic mitral disease. Mitral stenosis was found to be accompanied by insufficiency oftener than is generally held and clinically suspected. Marked mitral regurgitation may exist with but a faint apical systolic murmur, and, conversely, tight mitral stenosis may be accompanied by a loud apical systolic murmur. In general, however, a systolic murmur of grade 3 or louder at the apex indicates moderate to marked mitral regurgitation. By itself, a loud apical systolic murmur does not contraindicate valvuloplasty for stenosis. Severe fatigability and weakness overshadowing dyspnea is often associated with marked mitral regurgitation but may be found in patients with predominantly mitral stenosis and may be absent in marked mitral regurgitation. Left ventricular enlargement in the absence of aortic valvular disease, hypertension, or myocardial failure speaks for mitral regurgitation, although marked stenosis may occasionally coexist. Aneurysmal dilatation of the left auricle indicates marked mitral regurgitation. Systolic expansion when seen in the posteroanterior projection is presumptive evidence of marked mitral regurgitation. In the oblique position this sign may be present in tight mitral stenosis and it may be absent in marked mitral regurgitation. The auricular esophagogram did not improve clinical estimation of mitral regurgitation. Phonocardiographic records did not appear sufficiently consistent to be of diagnostic value in mitral regurgitation. The authors discuss the possible hemodynamic and technical causes of the difficulties encountered in correlating systolic expansion of the left auricle as assessed by fluoroscopy, esophagograms, and electrokymograms with the degree of mitral regurgitation. They reassert the feasibility of correct preoperative diagnosis of marked mitral regurgitation in most cases of mitral valvular disease under consideration for valvuloplasty, but no single criterion may be relied upon; consideration of all clinical findings usually allows correct assessment.

American Journal of Pathology, Ann Arbor, Mich.

29:369-618 (May-June) 1953

Myocarditis in Association with Varicella. D. B. Hackel.—p. 369.
Histopathogenesis of Cortisone-Altered Experimental Poliomyelitis: Observations on Syrian Hamster Inoculated Intracerebrally with Strain MEF$_1$. S. M. Aronson and G. Shwartzman.—p. 381.
*Relation of Heretofore Unreported Lesions to Pathogenesis of Herpes Zoster. W. J. Cheatham.—p. 401.
Panmyelosis and Chronic Granulocytic Leukemia. B. Black-Schaffer and L. D. Stoddard.—p. 413.
Natural History of Sarcoid Granuloma. H. J. Barrie and A. Bogach.—p. 451.
Clinicopathologic Study of "Mikulicz's Disease." W. S. Morgan and B. Castleman.—p. 471.
Lymph Node Structure in Patients with Cancer of Breast. M. M. Black, S. Kerpe and D. Speer.—p. 505.
Histochemical Study of Distribution and Fate of Dextran in Tissues of Mouse. R. W. Mowry and R. C. Millican.—p. 523.
Experimental Investigation of Changes in Axis Cylinders of Peripheral Nerves Following Local Cold Injury. W. J. Pirozynski and D. R. Webster.—p. 547.
Chorioepithelioma of Lung in Female Infant Seven Months Old. S. Kay and W. G. Reed.—p. 555.

Pathogenesis of Herpes Zoster.—The patient reported by Cheatham was a woman, aged 50, who had been given several courses of roentgen irradiation for Hodgkin's disease confirmed by biopsy of an axillary lymph node. Later, when periumbilical pain developed, she was treated with nitrogen mustard. A vesicular rash appeared accompanied by high fever. She died on the 18th day after the onset of pain. Microscopic examination of the vesicals revealed classical lesions of herpes zoster. Intranuclear inclusion bodies were demonstrated within the esophageal mucosa, myenteric plexus of the stomach, dorsal root ganglia, and a sympathetic ganglion at the level of the affected dorsal root ganglia. Similar inclusions were seen within cells in lesions of the pancreas, adrenals, and one ovary, associated with focal necrosis. Such lesions have not been previously described in zoster. It is postulated that the virus entered the body via the sympathetic nerves of the esophagus and migrated by the sympathetic nerves to the dorsal root ganglia, eventually reaching the skin by centrifugal spread along the respective peripheral nerves. The disseminated visceral and

cutaneous lesions resemble those described in varicella. The viruses of herpes zoster and varicella are probably identical. In varicella the lesions probably result from a hematogenous spread in a nonimmune individual, while in typical zoster they are tentatively considered to result from neurogenous spread in a person with humoral immunity. The respiratory and gastrointestinal tracts probably serve as portals of entry in most cases of herpes zoster. An incidental finding in this case was the apparently inconsequential growth of Histoplasma capsulatum in one adrenal gland.

American Journal of Psychiatry, New York

110:1-80 (July) 1953

Psychiatry and Citizenship. D. E. Cameron.—p. 1.
Function in Psychiatry. C. P. Oberndorf.—p. 13.
Intellectual and Affective Functions in Chronic Brucellosis. R. M. Reitan.—p. 19.
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Cardiac Epilepsy Simulating the Anginal Syndrome. E. A. Janjigian. —p. 34.
Comparative Epilepsy of Amnestic Syndrome in Various Organic Conditions. V. A. Kral and H. B. Durost.—p. 41.
An Outline and Bibliography for Seminar in Clinical Psychology for Resident Physicians in Psychiatry. M. Mercer and A. O. Hecker. —p. 48.
Mental Health Among Slave Population on Southern Plantations. W. D. Postell.—p. 52.
Fluctuations of Temporal Lobe Electroencephalographic Abnormality During Psychic Function. M. Ostow.—p. 55.
Psychological Implications of "Activating System." L. Linn.—p. 61.

American Journal of Public Health, New York

43:821-960 (July) 1953. **Partial Index**

Reinoculation with Multiple Antigen Preparations of Free-Living Children Previously Inoculated with Multiple Antigen Preparations. V. K. Volk, F. H. Top and W. E. Bunney.—p. 821.
Observations on Effectiveness of Various Scarlet Fever Antigens Used in Combination with Other Antigens in Multiple Antigen Preparations. V. K. Volk, F. H. Top and W. E. Bunney.—p. 833.
Recent Studies on Nonspecific Urethritis. B. M. Wagner, W. H. Morse and D. M. Kuhns.—p. 853.
Observations on Epidemiological Spread of Antibiotic-Resistant Staphylococci, with Measurements of Changes in Sensitivity to Penicillin and Aureomycin. H. F. Dowling, M. H. Lepper and G. G. Jackson. —p. 860.
Premarital Examination Laws—Are They Worth While? California Experience with Two Million Examinations. P. K. Condit and A. F. Brewer.—p. 880.
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Comparison of Results Obtained by Treponema Pallidum Immobilization Test and Kahn Verification Test. E. R. Harrell Jr.—p. 330.
Comparison of Neurath and Treponema Pallidum Immobilization Procedures. A. N. Roy, J. H. Hill, J. L. Gowdey and others.—p. 338.
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Study of Effects of Certain Temperatures and Time Limits on VDRL Slide Test. G. R. Cannefax, H. R. Beyer and E. B. Johnwick.—p. 348.
Variations in Stability of Sexual Relations as Explanation of Differences in Spread of Syphilis and Gonorrhea. P. V. Marcussen.—p. 355.
Community Organization for Mass Testing Programs. W. A. Mason. —p. 362.
Attempt to Produce Penicillin-Resistant Strain of Treponema Pallidum in Experimental Syphilis. T. F. Probey.—p. 369.
*Results of Treatment of Early Syphilis with Single Injection of Procaine Penicillin G in Oil and Aluminum Monostearate. E. W. Thomas, C. R. Rein, S. E. Landy and D. K. Kitchen.—p. 374.
Treatment of Gonorrhea with Erythromycin. G. R. Gable, M. J. Romansky and S. R. Taggart.—p. 377.
Susceptibilities of Kazan, Nichols, and Reiter Strains of Treponema and Pleuropneumonia-Like Organisms to Antibiotic Erythromycin (Ilotycin). R. Keller and H. E. Morton.—p. 379.
Comparison of Terramycin, Streptomycin, and Penicillin in Abortive Treatment of Nonspecific Urethritis. R. R. Willcox.—p. 383.

Treatment of Early Syphilis.—In May, 1948, a study was initiated on the efficacy of a single treatment with procaine penicillin in oil containing 2% aluminum monostearate (also known as PAM) in early syphilis at Bellevue Hospital. To date, 174 patients have been treated and have been followed clinically and serologically for 9 to 60 months following completion of therapy. The purpose of this study was to determine what could be accomplished with a single injection, since such schedules of therapy are of special value in those underprivileged countries where the majority of patients must be treated in the shortest period of time and on an ambulatory basis in rural clinics. Originally, the authors administered a single injection of 1,200,000 or 2,400,000 units of the penicillin preparation, but since June, 1950, they have been treating alternate cases of early syphilis with a single treatment of 2,400,000 or 4,800,000 units. It was found that a single injection of 1,200,000 units of procaine penicillin in oil with 2% aluminum monostearate is a satisfactory procedure for seronegative and seropositive primary syphilis. If a single treatment for secondary syphilis is used, it seems advisable to give 2,400,000 units of procaine penicillin in oil with 2% aluminum monostearate.

Anesthesiology, Philadelphia

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Rebreathing in Pediatric Anesthesia: Recommendations and Descriptions of Improvements in Apparatus. J. Adriani and T. Griggs.—p. 337.
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Reactions in Man from Infusion with Dextran. A. B. Tarrow and E. J. Pulaski.—p. 359.
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Malleable Cone-Tip Needle for Fractional Spinal Anesthesia. B. E. Cappe and E. V. Deutsch.—p. 398.
Analysis of Gases in Blood with Mass Spectrometer: I. Introduction. A. Faulconer Jr.—p. 405.

Annals of Surgery, Philadelphia

138:1-144 (July) 1953. **Partial Index**

*Appraisal of Surgical Treatment of Gastric Malignancy. P. A. Kirschner and J. H. Garlock.—p. 1.
Malignant Disease of Stomach in Young Adults. N. J. Bellegie and D. C. Dahlin.—p. 7.
Pancreatic Cysts—Surgical Treatment Especially by Use of Internal Drainage, with Report on Six Cases. A. L. Zaoussis.—p. 13.
External Sphincterotomy for Pancreatitis. L. Gillette.—p. 24.
*Relationship of Age of Patient to Natural History and Prognosis of Carcinoma of the Thyroid. G. Crile Jr. and J. B. Hazard.—p. 33.
Antecedent Factors in Cancer of Breast. E. F. Lewison and L. W. Allen. —p. 39.
Mediastinal Foreign Bodies; Their Treatment: Analysis of 32 Cases. R. J. Simpson.—p. 51.
Frostbite Resulting in Amputations. T. J. Canty and A. G. Sharf.—p. 65.
Experimental Vascular Grafts: I. Effects of Dicetyl Phosphate on Venous Autografts Implanted in Thoracic Aorta of Growing Pigs: Preliminary Report. E. A. Kanar, E. J. Schmitz, L. R. Sauvage and others.—p. 73.
Intra-Abdominal Hernias Due to Developmental and Rotational Anomalies. L. M. Zimmerman and H. Laufman.—p. 82.
Adenomas of Colon and Rectum: Diagnosis and Treatment in Relation to Cancer Prevention. P. C. Morton.—p. 92.
Reconstruction of Benign Non-Tuberculous Strictures of Trachea. W. C. Sealy, R. L. A. Keeley, J. P. Collins and C. R. Stephen.—p. 99.
Benign Neurogenic Tumors of Chest Wall. L. A. Hochberg and L. M. Rivkin.—p. 104.
Common Duct Exploration and Drainage for Obstructive Neonatal Jaundice. T. C. Moore.—p. 111.
Resection of Sacrum for Benign Giant Cell Tumor: Case Report. R. P. Hays.—p. 115.
Congenital External Torsion of Tibiae. J. Levine, A. Kenin and C. Glassman.—p. 121.
Pancreatic Heterotopia Causing Post-Cholecystectomy Symptoms and Obstructive Jaundice. H. Barber and W. H. Barber.—p. 124.

Surgical Treatment of Gastric Malignancy.—Three basic surgical methods are utilized in the treatment of gastric malignancy: distal subtotal gastrectomy, proximal subtotal gastrectomy, and total gastrectomy. Kirschner and Garlock report

results with distal subtotal and total gastrectomy. Among 283 patients operated on for gastric malignancy during the 15 year period from 1937 to 1951, 161 were subjected to the subtotal and 24 to total gastrectomy. Resection was possible in about two-thirds of their patients. Gastroenterostomy was performed in eight patients, local excision in two, and laparotomy in 88. There were 12 surgical deaths among the 88 patients undergoing subtotal gastrectomy more than five years ago. Of the 76 who survived the operation, 18 were alive at the time of this report. Of the 24 patients who underwent total gastrectomy between 1940 and 1951, four died during the operation. Although the percentage of patients with lymph node involvement was about the same in the two groups (undergoing subtotal or total gastrectomy), the authors emphasize that there is not a single long-term survivor among those subjected to total gastrectomy. One patient lived for three years and died of the gastric cancer. There is considerable speculation concerning the advisability of increasing the scope of gastric resection to the point of total removal. The biological behavior of the growth itself and the response of the host to its activity may be more important in the long-term survival. Reports indicate that the large number of total gastrectomies has been followed by increasing morbidity in term of impairment of digestive function, anemia, malnutrition, stricture at the anastomosis, diarrhea, and loss of earning power. The vast majority of these survivors become emaciated digestive cripples. The concept of variable biological behavior in cancer is finding wider acceptance, and while it should not lead to fatalistic attitude in the approach to the management, the authors feel that subtotal gastrectomy is the procedure of choice for malignant lesions in the distal portion of the stomach.

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Importance of Age of Patient for Prognosis of Carcinoma of Thyroid.—In the classification which Crile and Hazard employ, cancers of the thyroid are divided into the papillary and nonpapillary tumors, each of which has a characteristic natural history and clinical behavior. In some tumors, which behave clinically like papillary carcinoma, sparsity of papillary areas may make it difficult to classify thyroid cancer on the basis of morphology alone. Even if alveolar areas predominate in papillary carcinomas, these tumors will follow the behavior pattern of the papillary type of carcinoma and the patient's prognosis will be good. The nonpapillary type of thyroid cancer follows the age distribution of cancers elsewhere, occurs in older age groups, and usually is a highly malignant tumor. If areas of anaplasia are present, the tumor behaves like a highly malignant nonpapillary cancer, even if papillary areas are present. Since alveolar variants of papillary carcinomas may resemble nonpapillary adenocarcinoma of much higher malignancy, the classification of carcinoma of the thyroid should take account of the clinical as well as the morphological features. One of the most important and most neglected prognostic features of a cancer of the thyroid is the age at which it occurs. In 15 carcinomas of the thyroid that the authors observed in patients under 40 years of age, all were classified as papillary types of carcinoma and none developed recurrence or metastasis from 3 to 15 years after operation. In a larger series of 105 patients with thyroid carcinoma, all seen in the past five years, there were 43 patients under 40 years of age. Forty-one of these 43 patients had carcinomas of the papillary type and two had angioinvasive adenomas, which are considered to be of low malignancy. The vast majority of the cancers of the thyroid occurring in patients under 40 years of age behave like papillary carcinomas, regardless of whether alveolar or papillary elements predominate. The rare nonpapillary type of cancer that occurs in persons under the age of 40 is usually an angioinvasive adenoma with a low degree of malignancy. The prognosis in this age group is almost uniformly good if an adequate operation is performed. The surgeon need not be too alarmed if the tumor of a young patient is predominantly adenocarcinoma or alveolar carcinoma; he can assume that the outlook is as good as if the morphological arrangement were predominantly papillary.

Antibiotics and Chemotherapy, Washington, D. C.

3:659-764 (July) 1953. **Partial Index**

Chemistry of Erythromycin: I. Acid Degradation Products. R. K. Clark Jr.—p. 663.
Rationale of Routine Antibiotic Sensitivity Determinations. H. E. Lind. —p. 672.
Study of Possible Interference of Chloramphenicol with Penicillin in Acute Streptococcal Pharyngitis. S. H. Walker.—p. 677.
Factors in Proper Selection of Antibiotic Programs for Cure of Refractory Case of Subacute Bacterial Endocarditis. L. Loewe, C. Cohen and H. B. Eiber.—p. 681.
Effect of Cortisone on Fixation and Neutralization of Diphtheria Antitoxin. H. Brainerd and M. Scaparone.—p. 693.
*Stability Studies of Penicillin Products: VI. Procaine Penicillin and Buffered Crystalline Penicillin for Aqueous Injection. F. H. Buckwalter and S. Duda.—p. 698.
Laboratory Studies of Combinations of Several Antimicrobic Agents. H. M. Powell, C. G. Culbertson, W. S. Boniece and others.—p. 701.

Stability of Penicillin Products for Aqueous Injection.—Procaine penicillin G and buffered crystalline penicillin G (sodium or potassium) for aqueous injection is marketed as a dry powder that is reconstituted with a suitable diluent just prior to use. The usual concentration for this product is 300,000 units of procaine penicillin G and 100,000 units of buffered crystalline penicillin G (sodium or potassium) per milliliter. Buckwalter and Duda report observations on its stability at normal and accelerated temperatures for long periods of time. Random samples of finished 5 or 10 dose vials were taken from each production batch and stored under various temperature conditions. Accumulated data indicate the excellent stability of procaine penicillin G and buffered crystalline penicillin G for aqueous injection at 52 to 56 C (125.6 to 132.8 F) for 12 to 18 months and at 22 to 28 C (71.6 to 82.4 F) for two to four years. After two to four years at 22 to 28 C, the maximum loss was 7.2%. In the reconstituted state, this product is stable for one to two weeks at 5 to 10 C. Losses of less than 10% in penicillin activity are regarded as insignificant and of little consequence in judging the usability of a penicillin product. It appears that this product can be stored for several years, even in tropical countries, without any serious decomposition of the penicillin.

Bulletin of the Los Angeles Neurological Society

18:59-116 (June) 1953

*Cerebral Anoxia and Convulsive Disorders: Observations on Effects of Oxygen Want as Significant Factor in Causation of Epilepsy. C. B. Courville and J. M. Nielsen.—p. 59.
Spontaneous Cerebrospinal Rhinorrhea. R. W. Rand.—p. 74.
Complications of Encephalitis of the Von Economo Type. J. M. Nielsen. —p. 84.
Acute Pyogenic Spinal Subdural Abscess: Review of Literature and Report of Case. K. H. Abbott.—p. 91.
Relationship of Cranial to Subjacent Cerebral Tumors: Report of Case of Fibrosarcoma Eroding Frontal Bone Associated with an Underlying Glioblastoma Multiforme. C. B. Courville and H. A. Edmondson. —p. 103.
Long Survival with Hemiplegia Incident to Paranatal Anoxia: Case of Cerebral Spastic State with Death from Cardiac Failure at 80 Years of Age. C. B. Courville.—p. 110.

Cerebral Anoxia and the Causation of Epilepsy.—Courville and Nielsen enumerate many close associations between cerebral anoxia and the occurrence of convulsive seizures. They point out a number of facets of the problem that suggest that many of the group of so-called idiopathic or essential epileptics have, during the birth process, been subjected to minor injuries, and perhaps overlooked episodes of neonatal anoxia. Convulsive seizures are shown to be one of the most characteristic of all postanoxic symptoms as shown in both experimental and human instances of this condition. Cerebral anoxia is accompanied by dysrhythmias that are indistinguishable from those of the so-called idiopathic form of seizure. The actual cellular mechanism is suggested by the action of a peculiar form of anoxia produced by cyanides, a metabolic poison which apparently produces some change in the protoplasm of the cell and makes it impossible for it to use oxygen. Convulsive seizures, as one of the postanoxial manifestations, occur as the result of some interference with oxygenation within the nerve cells. A disturbance of internal respiration may be the ultimate exciting factor in the production of a seizure, although the causes of this disruption may be many.

Hyperkinetic motor phenomena, including grand mal seizures, have been provoked by experimental neonatal anoxia. The frequent association of convulsions with other manifestations of asphyxia at birth also points in the same direction. This conclusion is further supported by the observation that the histological characteristics of epileptogenic lesions removed at operation present signs of anoxemic etiology. The final argument, on a statistical basis, is that first-born children, also most likely to suffer from the effects of neonatal anoxia, are apparently more apt to develop convulsive seizures than are subsequent siblings.

Cancer, Philadelphia

6:641-852 (July) 1953. **Partial Index**

*Pathology of Primary and Recurrent Carcinoma of Human Breast After Administration of Steroid Hormones. W. J. Emerson, B. J. Kennedy, J. N. Graham and I. T. Nathanson.—p. 641.
Experimental Acute Radiodermatitis Following Beta Irradiation. C. C. Lushbaugh, J. B. Storer and D. B. Hale.—p. 671.
Adenocarcinoma with Argentaffin Cells of Nasal Cavity, Giving Widespread Metastases. L. C. Simard and A. Jean.—p. 699.
Coeliac Axis in Expansion of Operation for Gastric Carcinoma. L. H. Appleby.—p. 704.
Collateral Arterial Pathways to Liver After Ligation of Hepatic Artery and Removal of Celiac Axis. N. A. Michels.—p. 708.
Surgery of Hepatic Neoplasms with Special Reference to Secondary Malignant Neoplasms. A. Brunschwig.—p. 725.
Focal Cirrhosis of Liver: Its Relation to So-Called Hamartoma (Adenoma, Benign Hepatoma). E. J. Benz and A. H. Baggenstoss.—p. 743.
*Five Year Survival Rate for Gastric Cancer: Statistical Study from Syracuse Medical Center. A. B. Raffl and G. E. Kelley.—p. 756.
Observations on 10 Patients with Gastrointestinal Cancer During Course of Chemotherapy with Dichloroaminopterin. G. C. Branche Jr., V. Downing, F. Homburger and others.—p. 760.
New Approach to Extended Radical Vaginal Hysterectomy for Cancer of Cervix. S. Mitra.—p. 765.
Endometrium Associated with Cervical Cancer. H. Speert.—p. 771.
Spontaneous Regression of Case of Myosarcoma. D. W. Penner.—p. 776.
Neurilemmoma of Lung Confirmed by Tissue Culture: Report of Case. N. Lane, M. R. Murray and G. C. Fraser.—p. 780.
Granular Cell Myoblastoma: Two Unusual Cases. E. S. Crawford and M. E. DeBakey.—p. 786.
Early Granular-Cell Myoblastoma Confined Within Small Peripheral Myelinated Nerve. R. Bangle Jr.—p. 790.
Diffuse Fibrous Mesothelioma of Pericardium: Report of Case and Review of Literature. C. J. Dawe, D. A. Wood and S. Mitchell.—p. 794.
Growth of Human Epidermoid Carcinoma Cells in Tissue Culture. C. M. Southam and P. J. Goettler.—p. 809.
Effect of β-2-Thienyl-dl-Alanine on Growth of Sarcoma T241 in C57 Black Mice. J. A. Jacquez, C. C. Stock and R. K. Batclay.—p. 828.

Breast Cancer After Hormone Therapy.—The 18 patients presented in this report were selected from a total of 27 on whom mastectomies had been performed after hormone therapy. Nine were eliminated because they had received roentgen ray therapy or came from other hospitals with insufficient clinical information. Four of the 18 were considered operable when first examined. They were given diethylstilbestrol (Stilbestrol) for periods of 5, 10, 20, and 25 days prior to operation in an attempt to observe early regressive changes. The tumors of the remaining 14 patients were incurable by operation at the onset of therapy. On steroid-hormone treatment in these cases, there was demonstrated regression by healing and epithelization of ulcers; softening, mobilization, and disappearance of deep-seated masses; shrinkage of protuberant tumors; and the disappearance or reduction in size of skin nodules and enlarged lymph nodes. The pathological aspects of the phases of regression were investigated. Regression was preceded by simultaneous loosening of the stroma and necrobiosis of the malignant cells. Subsequently collagen reformed in the regressing areas and produced tumor-free scars of increased density. These alterations resulted in the clinical impression of softening, shrinkage, and mobilization of the tumor. Regression ranged from partial alterations in limited areas to almost complete fibrosis of a primary tumor and its lymph node metastases. Similar changes were observed in tumors of untreated patients in the same age group, but the degree of change was nowhere near that observed in the hormone-treated tumors. It appears that a preexistent reactive response to tumor had been further stimulated by the hormones. There is also visual proof that some malignant cells, presumably the source of later reactivations, survive even in extensively regressed tumors, and that this survival is dependent in some degree on the location of the cells within ducts with hyperplastic elastica, lymphatics, and densely sclerotic areas. The clinical impression that slowly progressing tumors respond best to treatment is confirmed in the finding that medium and low grade carcinomas tend to show better responses. Among the primary carcinomas, those characterized by abundant sclerosis and periductal elastic tissue hyperplasia are particularly susceptible to hormone-induced regression. Similarly constituted tumors failed to regress equally, indicating that the morphology of the stroma of the tumor was not the sole determinant in its response to the hormones. It appears that these regressions were in part the result of an unusual hormonal stimulation of a natural process of repair.

Five Year Survival Rate for Gastric Cancer.—Raffl and Kelley base their report on patients admitted to two of the hospitals of the Syracuse Medical Center during the years 1937 to 1951 with the diagnosis of cancer of the stomach. The mean age of these patients was 63.1 years. The disease predominated in the older age groups and in men; the male to female sex ratio was 2:1. Weight loss, pain, vomiting, anorexia, and weakness were the five commonest symptoms with an average duration of 8.5 months before hospitalization. Gastric analysis showed achlorhydria in 70% of the cases; 29% showed hypochlorhydria and only 1%, hyperchlorhydria. Roentgen examination proved helpful in diagnosis, providing a correct diagnosis of gastric cancer in 77% and indicating other gastric abnormalities in 17%, a total of 94%. The operability rate of those admitted with a diagnosis of carcinoma of the stomach was 76%. Of the patients operated on, 47% were given a curative resection (36% of the total) with a mortality of 14%. Palliative surgery provided little relief and was accompanied by a high mortality. Of those undergoing resection only three lived five years without recurrence of their carcinoma; this gives a five year survival rate of 6.6%. The over-all five year survival rate was 2% for all patients admitted to the hospital with a diagnosis of carcinoma of the stomach. The authors feel that in their hands, at least, the results of subtotal resections for carcinoma of the stomach have been very discouraging.

Circulation, New York

7:1-160 (July) 1953

*Study of Usefulness and Limitations of Electrical Countershock, Cardiac Massage, Epinephrine and Procaine in Cardiac Resuscitation from Ventricular Fibrillation. R. Wégria, C. W. Frank, H-H. Wang and others.—p. 1.
*Syndrome of Patent Ductus Arteriosus with Pulmonary Hypertension. H. Hultgren, A. Selzer, A. Purdy and others.—p. 15.
Aging Processes in Arterial and Venous Systems of Lower Extremities. M. D. Pareira, F. P. Handler and H. T. Blumenthal.—p. 36.
Studies Made by Simulating Systole at Necropsy: II. Experiments on Relation of Cardiac and Peripheral Factors to Genesis of Pulse Wave and Ballistocardiogram. I. Starr, T. G. Schnabel Jr. and R. L. Mayock—p. 44.
Observations on Hemodynamic Properties of Thiophanium Derivative, Ro 2-2222 (Arfonad), in Human Subjects. N. S. Assali, R. A. Douglass Jr. and R. Suyemoto.—p. 62.
Dye Dilution Curves in Cyanotic Congenital Heart Disease. H. J. C. Swan, J. Zapata-Diaz and E. H. Wood.—p. 70.
Measurement of Vasoconstrictor Tone in Extremities in Hypertension. H. J. Kowalski, S. W. Hoobler, S. D. Malton and R. H. Lyons.—p. 82.
Effect of Priscoline on Clearance of Radiosodium from Muscle and Skin of Man in Normal and Diseased Limbs. J. Freund, L. H. Wisham and R. S. Yalow.—p. 89.
Effect of Frequency Response of Electrocardiographs on Form of Electrocardiograms and Vectorcardiograms. A. J. Kerwin.—p. 98.

Cardiac Resuscitation from Ventricular Fibrillation.—Ventricular fibrillation may be caused by coronary occlusion, electrocution, digitalis and digitalis-like drugs, chloroform, chloroform and epinephrine and other compounds of epinephrine, mechanical, chemical and thermal trauma, and interventions, particularly those involving the thorax and the heart. It may occur as an agonal event. In some species of mammals, such as the cat, ventricular fibrillation may stop spontaneously; in dogs and in human beings fibrillation is not spontaneously reversible. It can be stopped by various procedures and drugs. The efficacy of electrical countershock, cardiac massage, epinephrine, and procaine in stopping electrically induced ven-

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tricular fibrillation and restoring a competent ventricular contraction was studied in 75 anesthetized dogs. It was found that countershock is a reliable means of stopping fibrillation. However, it must be preceded by cardiac massage if not applied promptly after initiation of fibrillation. Epinephrine helps restore a competent ventricular contraction once fibrillation has been stopped by countershock, but it increases the incidence of recurrence of fibrillation. The doses of procaine that constitute a reliable means of stopping fibrillation depress the rhythmicity of the heart to such an extent that the cessation of fibrillation is followed by prolonged periods of cardiac standstill.

Patent Ductus Arteriosus with Pulmonary Hypertension.—Hultgren and associates report on eight cases of patent ductus arteriosus associated with pulmonary hypertension. Catheterization was done in six of these and autopsy in three. Four of the patients had evidence of right to left or reversed shunt through the ductus, and three of these presented the clinical picture of chronic cyanotic congenital heart disease. Four patients had no evidence of a right to left shunt, but presented an atypical clinical picture with absence of the characteristic continuous murmur and evidence of enlargement of the right ventricle. Two of these patients improved greatly following ligation of the ductus. This study suggests that the basis of this syndrome is an elevation of the anatomic resistance of the pulmonary vascular bed with a resultant increase in pulmonary artery pressure. The cause of this increased resistance is not apparent, but thrombosis with recanalization, and in one instance a diffuse arteritis, have been demonstrated. Clinical evidence suggests that in some cases the disease has been present since birth. Surgery seems indicated in those cases in which a right to left shunt is not present, but ligation may be dangerous or fatal in instances where a right to left or "reversed" shunt is present. The most important single diagnostic study that will detect the presence of a ductus with a reversed shunt consists of the determination of the oxygen content of simultaneously drawn blood samples from the right brachial and femoral artery at rest and during exercise. Cardiac catheterization is necessary to detect accurately the "atypical" ductus without a right to left shunt, which may be erroneously diagnosed clinically as an atrial septal defect with pulmonary hypertension or "primary" pulmonary hypertension.

Delaware State Medical Journal, Wilmington

25:149-172 (July) 1953

Hip Fractures at Delaware Hospital. J. F. Hughes.—p. 149.
Methyl Alcohol Poisoning. B. Z. Paulshock.—p. 155.
Enterococcal Endocarditis: Report of Case Successfully Treated with Penicillin and Streptomycin. W. J. Holloway and E. G. Scott.—p. 158.
Treatment of Patient with Advanced Cancer. R. W. Frelick.—p. 161.
Clinicopathologic Case Report. V. R. Sturtevant and P. W. Huntington Jr.—p. 162.
Clinical Evaluation of Cetylpyridinium Chloride Cough Mixture. C. A. Brusch, C. W. McClure, C. M. Cerrato and L. A. Grasse.—p. 165.

Endocrinology, Springfield, Ill.

53:1-122 (July) 1953. **Partial Index**

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Can the Ovarian Hormones Inhibit Mammary Response to Prolactin? J. Meites and J. T. Sgouris.—p. 17.
An Extra-Adrenal Effect of Some Commercial Preparations of Corticotropin Upon Work Performance of Hypophysectomized Rat. D. J. Ingle, J. E. Nezamis and E. H. Morley.—p. 24.
Relationship of Adrenal Glands to Diabetogenic Effect of Ethylenediamine in Partially Depancreatized Rat. D. J. Ingle, D. F. Beary and A. Purmalis.—p. 30.
Alterations in Organ Glycogen Reserves and Respiration Following Epinephrine. F. L. Strand and A. S. Gordon.—p. 37.
Effects of Altered Thyroid Function Upon Metabolism of Endogenously Labeled Thyroid Hormone. A. Albert, E. Ford and N. Lorenz.—p. 50.
Response of Plasma Protein-Bound Iodine of Hypophysectomized Dogs to Injected Thyrotropin: Influence of Cortisone. L. W. O'Neal and P. Heinbecker.—p. 60.
Absorption and Glycogenic Activity of Cortisone and Hydrocortisone After Parenteral Administration to Rats. C. C. Porter and R. H. Silber.—p. 73.
In Vivo Metabolism of Hydrocortisone. S. Burstein, K. Savard and R. I. Dorfman.—p. 88.
Effect of Oral and Intravenous Glucose Administration on Adrenal Response to Cold Exposure. R. E. Sterling and B. B. Longwell.—p. 98.

Gastroenterology, Baltimore

24:155-306 (June) 1953

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Congenital Megacolon. Comparison of Spastic and Hypertrophied Segments with Respect to Cholinesterase Activities and Sensitivities to Acetylcholine, DFP and Barium Ion. K. Kamijo, R. B. Hiatt and G. B. Koelle.—p. 173.
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Gastric Emptying Time: Comparative Studies with Placebos, Prantal and Banthine. G. K. Hawkins, S. Margolin and J. J. Thompson.—p. 193.
Effect of Bentyl Hydrochloride on Morphine-Induced Spasm of Sphincter of Odi in Man: Preliminary Report. B. Marien, D. R. Webster and C. J. Tidmarsh.—p. 200.
Action of New Synthetic Antispasmodic in Patients with Gastrointestinal Complaints. R. J. Bolt, H. Bratt and H. M. Pollard.—p. 204.
Action of Banthine on Motility of Small Intestine Studied by Rapid Method. J. Nasio.—p. 208.
Meckel's Diverticulum with Intussusception, Ulceration with Hemorrhage, and Ectopic Gastric Mucosa and Pancreatic Tissue. M. F. Koszalka.—p. 222.
Cholelithiasis and Cholecystitis: With Study of 513 Patients Operated Upon at Bellevue Hospital. J. E. Sutton.—p. 232.
Radiomanometric Examination of Biliary Ducts: Experience with 418 Cases. G. Albot, C. Olivier and H. Libaude.—242.
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Georgia Medical Association Journal, Atlanta

42:267-323 (June) 1953

President's Address from 103rd Annual Session. C. F. Holton.—p. 270.
Scrotal Gangrene and Phagedenic Penile Ulceration Associated with Large Intrapelvic Abscess: Fatal Case Report. A. L. Finckle, C. L. Prince and P. L. Scardino.—p. 273.

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Hypersensitivity Reaction to Procaine Penicillin Anaphylactic Shock, Acute Ulcerative Cystitis, and Acute Ulcerative Colitis. R. Whipple Jr.—p. 334.
Trilene for Obstetrical Analgesia. S. P. Weinberg.—p. 337.
Psittacosis in Georgia. C. M. Silverstein.—p. 341.
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Acute Cholecystitis: Report of 100 Consecutive Cases Treated Surgically with No Mortality. J. J. McDonald, G. B. Johnson and J. B. Littlefield.—p. 347.
Primary Varicella Pneumonia. J. F. Stegeman.—p. 350.

Illinois Medical Journal, Chicago

104:1-112 (July) 1953

The Obstetrician and Fetal Death. H. L. Allen.—p. 1.
Rose Thorn Penetrating Cornea into Anterior Chamber. T. D. Allen and E. A. Pushkin.—p. 6.

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Is the B.M.R. Obsolete? L. Seed.—p. 113.
*Discography in Diagnosis of Herniation of Lower Lumbar Intervertebral Discs. J. J. Davies and E. C. Peirce II.—p. 118.
Use of Reichstein's Substance "S" in Treatment of Cancer. L. River, J. Silverstein and E. Dolehide.—p. 126.
Report on Visual Screening Program in Public Elementary Schools of Oak Park (Illinois) for 1950-51. P. Good and H. Holmes.—p. 128.
Surgical Management of Cutaneous Tumors. W. T. Shaffer.—p. 136.

Discography in Diagnosis of Herniation of Intervertebral Disks.—Davies and Peirce show that an absorbable contrast medium may be injected to outline the nucleus pulposus following insertion of a fine lumbar puncture needle through the posterior annulus fibrosus in any of the three lower lumbar spaces. This procedure is called discography. It makes possible the demonstration of various pathological conditions of the intervertebral disks, especially herniation. The technique is described, and the results of 28 discogram attempts in 23 patients are recorded. In five patients the results were unsatisfactory in one or two interspaces. In all of these a repeat examination was satisfactory. A total of 30 ruptured disks were found in 20 patients; two patients showed no evidence of disk rupture. Of the 20 patients with ruptured disks, 12 were treated by exploration of two or more interspaces with excision of any grossly abnormal disks, and eight were treated

conservatively without operation. In every case coming to operation the surgical findings coincided with discography for both normal and ruptured disks. There were no serious complications. Discography has not gained the recognition it deserves. The authors consider it probably more accurate than myelography in the verification and localization of disk herniations.

Journal of Allergy, St. Louis

24:289-380 (July) 1953

Microscopic Observations of Pulmonary Arterioles, Capillaries, and Venules of Living Mammals Before and During Anaphylaxis. W. S. Burrage and J. W. Irwin.—p. 289.
Oral Cortisone in Treatment of Hay Fever. I. W. Schiller and F. C. Lowell.—p. 297.
*Effect of Stress Factors on Asthma Induced in Guinea Pigs by Aerosolized Antigens. S. M. Feinberg, S. Malkiel and F. C. McIntire.—p. 302.
Timed Vital Capacity in Bronchial Asthma. M. J. Dulfano, J. A. Herschfus and M. S. Segal.—p. 309.
Temporal and Quantitative Factors Influencing Development of Experimental Asthma in Guinea Pig. B. Ratner.—p. 316.
Piromen Therapy in Asthma: Functional and Clinical Studies. I. A. Fond.—p. 326.
Studies on Sensitivity of Mice to Histamine Following Injection of Hemophilus Pertussis: I. Effect of Strain and Age of Mice. J. Munoz and L. F. Schuchardt.—p. 330.
Cold Urticaria and Purpura as Allergic Aspects of Cryoglobulinemia. M. J. Steinhardt and G. S. Fisher.—p. 335.
Influence of Cortisone and Hydrocortisone on Production of Circulating Antibody in Human Beings. H. T. Friedman.—p. 342.
Clinical Evaluation of Air-Borne and House Dust Fungi in New Jersey. N. Schaffer, E. E. Seidmon and S. Bruskin.—p. 348.
Alberta Pollen Survey. L. L. Kennedy.—p. 355.
Effect of Small Doses of Cortisone Acetate Combined with an Antihistaminic in Ragweed Pollinosis. E. B. Brown and T. Seideman.—p. 364.
Arachnidism. A. E. Cohen.—p. 369.
Critical Analysis of Hereditary Concept of Allergy. B. Ratner and D. E. Silberman.—p. 371.

Effect of Stress Factors on Asthma in Guinea Pigs.—Asthma and other allergic manifestations are frequently relieved temporarily by febrile disease, localized infections, traumatic shock, surgical operations, and pregnancy. Attempts were made to duplicate some of these stresses by various types of fever therapy and fixation abscess, injections of various foreign proteins, and bacterial polysaccharides. In spite of the good clinical results obtained in asthma and other allergic conditions with cortisone and corticotropin, the majority of investigators have agreed that these hormones do not prevent anaphylactic death in the guinea pig. Need was felt for a method that would induce in guinea pigs a condition more closely resembling human asthma. The authors describe such a method in which asthma of controllable degree was produced in passively sensitized guinea pigs by the inhalation of aerosolized crystalline ovalbumin. Using this aerosol-induced asthma as an indicator, it was shown that a protective effect can be demonstrated by pretreatment of these animals with any of the following: tripelennamine (Pyribenzamine), cortisone, corticotropin, localized chemical inflammation, yeast suspension, sodium nucleate, and human serum. A pyrogenic bacterial polysaccharide failed to give significant protection. The method described and possible future modifications of it may be used advantageously in the study of basic factors in the production and alteration of hypersensitivity.

Journal-Lancet, Minneapolis

73:267-304 (July) 1953

Cesarean Section After Onset of Labor. R. F. Sturley.—p. 267.
Rehabilitation of the Tuberculous. E. Hochhauser.—p. 271.
*32 Cases of Renal Glycosuria. J. R. Fox.—p. 275.
Clinical Evaluation of Elkosin in Refractory Genito-Urinary Tract Infections. R. R. Commons and T. Wire.—p. 278.
Track Stars Are Not Barrel Chested. S. A. Weisman.—p. 280.
*Cordotomy in High Cervical Region for Intractable Pain. L. A. French.—p. 283.
Treatment of Post-Herpetic Neuralgia. Z. R. Miller.—p. 288.

Renal Glycosuria.—The 38 cases of persistent nondiabetic glycosuria reviewed were detected in the course of physical examinations on 19,358 persons; most of them were students at the University of Minnesota and ranged in age from 17 to 37. Glycosuria was detected in 155 persons. All of these were called back for a repetition of the examination, a more complete history, and a glucose tolerance test of the two and one-half hour type with 100 gm. of glucose. These patients were examined between 1948 and 1952, and some could be followed for several years. Thirty-eight patients were found to have persistent recurrent glycosuria on a nondiabetic basis. Thirty-two of the 38 patients had fasting blood sugars that were normal (below 100), with normal curves and with transient urinary sugar. Six had a normal fasting blood sugar but an abnormally high peak curve, although with a return to normal and with a transient glycosuria. There were 32 cases of pseudorenal glycosuria and 6 of the possibly latent type of diabetes mellitus. The family history of the 38 patients revealed diabetes less often than is the case in patients with true diabetes. There was no tendency to obesity. The blood pressure range was normal. Fasting blood sugars were within normal range. The glucose tolerance curves were of two types: (1) the normal curve, with the peak generally under 150, but with sugar in the urine; (2) a high peak curve, with the upper reading over 180, and in some instances over 200. There was a return to normal or a hypoglycemic state within two and one-half hours, and glycosuria occurred. Three patients were given insulin, although the diagnosis of diabetes mellitus had not been verified by a glucose tolerance test. The author concludes that the dividing line between true renal glycosuria and pseudorenal glycosuria is less definite than is believed and that they probably are the same entity. There is an entity in which the span of the glucose tolerance curve is normal but the peak is high. This may possibly be explained by a slow, but adequate, islet cell response. It is necessary to rely upon an abnormal fasting blood sugar or a glucose tolerance curve in making a diagnosis of diabetes mellitus before starting treatment. Patients with glycosuria of any type must be followed up with sugar tolerance tests, in order to ascertain whether there is a change; each case presents an individual problem.

Cordotomy in the High Cervical Region for Intractable Pain.—French discusses the surgical relief of intractable pain arising in the region of the brachial plexus, the arm, the chest, or the upper abdomen. The operation consists of sectioning, in the region of the second cervical vertebra, the spinal cord tract carrying pain and temperature sensations, i. e., the lateral spinothalamic tract. High cervical cordotomy was performed on 42 patients. The group included patients with carcinoma in the breast, lung, esophagus, colon, pancreas, prostate, cervix, ovary, rectum, bladder, and kidney. Other patients had phantom limb, tabetic crises, and lymphatic leukemia. The pain was located in the middle or upper abdomen, in the chest, the arm, or the supraclavicular area. Where the primary lesion was in the pelvic organs, the neoplasm had extended into the pelvis and up into the retroperitoneal space. In 23 of the 42 patients the high cervical cordotomy was done unilaterally at the second cervical level. In 9 it was done bilaterally in the cervical levels, and in 10 the high cervical incision was combined with a contralateral incision in the upper thoracic level. The bilateral procedures were done for pain that was located either bilaterally or in the midline such as pancreatic pain or pain arising from metastases to the spine. Complete relief was obtained in 22 of 23 undergoing unilateral high cervical cordotomy, in 6 of 9 subjected to bilateral cervical cordotomy, and in 8 of 10 in whom unilateral high cervical cordotomy was combined with contralateral high thoracic cordotomy. Of the five fatalities two cannot be ascribed to the procedure. High cervical cordotomy has almost entirely replaced dorsal root rhizotomy except for pain in the upper four cervical segments. Complications appear to be less frequent than with thoracic cordotomy. There is less variation in the sensory levels obtained with the high cervical operation than with the high thoracic. It is believed that the lateral spinothalamic tract is more consistent in its anatomical structure and position at this level.

J. Neuropathology & Exper. Neurology, Baltimore

12:205-310 (July) 1953

Primary Carcinoma of Pituitary. E. H. Feiring, L. M. Davidoff and H. M. Zimmerman.—p. 205.
Multiple Intracranial Tumors: Glioma Associated with Hypophyseal Chromophobe Adenoma: Report of Two Cases. B. L. Wise, N. Malamud and E. B. Boldrey.—p. 224.
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Effect of Various Convulsive Procedures on Cranial Vessels of Dog Angiographically Visualized. L. Halpern and E. Peyser.—p. 277.
Experimental Hydrocephalus. A. Bachs and A. E. Walker.—p. 283.
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Coarctation of Walls of Lateral Angles of Lateral Cerebral Ventricles: Comparative Anatomical Study. J. A. Epstein.—p. 302.

Journal of Nutrition, Philadelphia

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Effects of Vitamin B_{12} on Utilization of Carotene and Vitamin A by the Rat. E. G. High and S. S. Wilson.—p. 203.
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Effect of Vitamin B_{12} in Diet of Rat on the Vitamin B_{12} Contents of Milk and Livers of Young. L. J. Daniel, M. Gardiner and L. J. Ottey.—p. 275.

Louisiana State Medical Society Journal, New Orleans

105:211-254 (June) 1953

Gastric Cancer. D. O. Ferris.—p. 211.
Influence of Newer Concepts of Nasal Physiology on Nasal Operations. R. H. Riggs.—p. 217.
Problem of Nasal Polyp. H. L. Kearney.—p. 220.
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105:255-292 (July) 1953

Acute Infectious Diarrheas. J. Felsen.—p. 255.
*Management of Otitis Media: Antibiotic Therapy Versus Surgical Principles. J. W. McLaurin.—p. 262.
Some Problems in Therapy of Amebiasis. C. A. Jones.—p. 269.
*Eosinophilia in Childhood Caused by Visceral Larva Migrans. J. H. Dent and G. M. Carrera.—p. 275.
Advantages of State System for Medicolegal Investigation. S. H. Durlacher.—p. 280.

Otitis Media: Antibiotics Versus Surgery.—McLaurin believes that sulfonamides and antibiotics have been used indiscriminately in otitis media. These agents are capable of relieving the symptoms of otitis media but the pathological process may continue only partly or entirely unchecked. He saw 55 patients, chiefly children, with otitis media for which myringotomy was indicated. Thirty-four of the patients had had no previous treatment. They were all submitted to myringotomy, and they all recovered in an average of 5.17 days. The remaining 21 patients had all been treated previously by chemotherapeutic or antibiotic agents, without myringotomy. They sought medical relief because of continuing or recurrent infection. All were submitted to myringotomy, but their recovery took, on the average, 13.55 days. Furthermore, nine of them required the use of antibiotics, which were not employed until after their effectiveness against the organisms present had been proved in the laboratory. While the antibiotics usually relieve symptoms, they do not always eradicate infection, and they cannot restore the normal physiology in the presence of suppuration. Once middle ear disease is diagnosed, myringotomy is indicated under the following circumstances: severe and continuous pain; bulging of the tympanic membrane; loss or reduction of hearing in an acutely painful ear; a high septic temperature not otherwise accounted for; headaches and pain in the mastoid area; convulsions in infants; spontaneous perforation with evidence of inadequate drainage. Myringotomy should also be performed in all doubtful cases, whether or not the indications just listed are present. There is far less risk in incising the tympanic membrane unnecessarily than in allowing an undetected exudate to persist in the middle ear. The incidence of surgical mastoidectomy in otitis media has been materially reduced in recent years. Acute otitis media has itself decreased, a reduction which can be attributed to the use of the antibiotics in antecedent pneumonia and other severe respiratory infections.

Eosinophilia in Childhood Caused by Visceral Larva Migrans.—According to Dent and Carrera the term visceral larva migrans denotes the aimless migration of the larvae of certain round worms through the human viscera, although the particular species in question is not a parasite of man. The larval stage of nematodes usually parasitic in lower animals are capable of invading and damaging the human tissues and stimulating an eosinophilic response in the circulating blood. The condition is the visceral counterpart of the entity, cutaneous larva migrans, in which skin penetrating larvae of certain hookworms produce typical dermatological lesions. The authors obtained their knowledge of visceral larva migrans in part from seven clinical cases with two confirmatory liver biopsies and one complete autopsy, and in part from material submitted for consultation from three other cases in which a specific diagnosis has been established, and three additional cases in which the larvae have not been identified, but which showed typical histological lesions. In their experience, visceral larva migrans occurs in young children, usually from 18 months to 6 years of age—an age range within which children are most likely to swallow dirt. The symptoms are protean and consist of intermittent fever, malaise, pallor, loss of appetite, irritability, failure to gain weight, and muscle aches and pains. The children observed by the authors were "dirt-eaters," and there was close association with pets, especially dogs. When the cause of eosinophilia in children cannot be accounted for by allergy or orthodox parasites, one must consider the possibility of visceral larva migrans. The larvae of Toxocara canis, the ascarid of dogs, is probably the chief offender. Children become infected by swallowing dirt contaminated with feces of a worm-bearing dog. The larval parasites, after penetrating the intestinal mucosa, migrate through the organs and tissues, producing typical lesions and stimulating pronounced eosinophilia of the bone marrow and peripheral blood. Since these larvae do not complete their life cycle in man, an abnormal host for them, egg-laying adult worms of this species are not to be found in the human intestine; therefore the specific diagnosis cannot be made by fecal examination. Liver biopsy is at present the only means of establishing the exact diagnosis. As yet, no specific treatment is available. Awareness of the mode of infection, with adequate prophylaxis against subsequent exposures is the best form of therapy.

Maryland State Medical Journal, Baltimore

2:293-348 (June) 1953

Collagen Disorders. L. K. Alpert.—p. 301.

SYMPOSIUM ON TRAUMA

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Viewpoint of Psychiatrist. E. E. Meyer III.—p. 312.
Viewpoint of Lawyer and Jurist. E. H. Niles.—p. 316.
Study on Reciprocal Relationship of Hypertension and Gastro-Intestinal Bleeding. S. Morrison, W. C. Ebeling and V. B. Bennett.—p. 328.

Medical Annals of District of Columbia, Washington

22:339-390 (July) 1953

Relativity of Chemical Factors Involved in Cancer of Prostate and Metabolic Research. W. P. Herbst Jr.—p. 339.
Problems of the "Criminal Insane" at Saint Elizabeths Hospital. W. Overholser.—p. 347.
Incidence of Pinworm and Ascaris Infestation in Negro Children in the Washington Area. V. C. Kelly and R. B. Scott.—p. 351.
Alveolar Cell Carcinoma of Lung: Review and Report of Two Cases. G. W. Ware.—p. 353.
Acute Disseminated Histoplasmosis: Report of Case Diagnosed by Needle Biopsy of Spleen and Liver. J. T. Alexander and F. Bakir. —p. 359.

Metabolism, New York

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Sodium as Toxic Ion in Potassium Deficiency. P. R. Cannon, L. E. Frazier and R. H. Hughes.—p. 297.
Some Aspects of Metabolic Effect of Desoxycorticosterone Acetate. R. Luft and B. Sjogren.—p. 313.
Comparative Study of Use of Glycyrrhizine and Glycyrrhetinic Acids in Addison's Disease. H. E. Pelser, A. F. Willebrands, M. Frenkel and others.—p. 322.
Body Composition in Nutritional Edema. C. Gopalan, P. S. Venkatachalam and S. G. Srikantia.—p. 335.
Effects of Low Protein Intake on Pregnant Rat. C. Curtiss.—p. 344.
Influence of Glucose on Amino Acid Metabolism. H. N. Munro and W. S. T. Thomson.—p. 354.
Dietary Dilution Studies in Gold Thioglucose Induced Obesity in Mouse. J. A. Owen Jr., W. Parson and K. R. Crispell.—p. 362.
Interrelations Between Pantothenic Acid, Protein and Calorie Intakes with Respect to Respiration and Morphology of Duodenal Mucosa. J. J. Vitale, D. M. Hegsted, J. DiGiorgio and N. Zamchek.—p. 367.

Military Surgeon, Washington, D. C.

113:1-78 (July) 1953. **Partial Index**

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Successful Management of Necrotizing Ulcerative Gingivitis in the Armed Forces. M. A. Tuckman.—p. 35.
Hemorrhage into Lymphatic Vessels. L. Wirth.—p. 39.

New York State Journal of Medicine, New York

53:1377-1502 (June 15) 1953

Certain Actions of Sympathomimetic Amines on Heart. M. L. Tainter and A. M. Lands.—p. 1433.
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Three Thousand Psychiatric Patients. J. L. McCartney.—p. 1443.
Complete Stripping of Varicose Veins Under Local Anesthesia. R. A. Nabatoff.—p. 1445.

53:1503-1598 (July 1) 1953

Adrenal Cortex Therapy in Acute Diseases of Liver: XIV. Clinical Studies of Liver Dysfunction. L. Pelner and S. Waldman.—p. 1543.
Reversal to Normal of Abnormal Resting Electrocardiograms Following Exercise Tolerance Tests in Patients with Coronary Artery Sclerosis and Angina Pectoris. H. H. Kalter.—p. 1548.
Isolation of an Antigouty Factor from Postpartum Plasma: Preliminary Report. L. W. Granirer.—p. 1551.
Acute Febrile Petechial Oropharyngitis: Preliminary Report. M. B. Wallach, S. Schmones and S. W. Berezin.—p. 1553.
Use of Skin and Tantalum Mesh for Hernia Repair. T. C. Case.—p. 1554.
Purpura Abdominalis. A. Zabin.—p. 1557.
*Biologic Variability of Breast Carcinoma in Relation to Diagnosis and Therapy. M. M. Black and F. D. Speer.—p. 1560.

Biological Variability of Breast Carcinoma.—Medical writings as well as data prepared for the lay public generally imply that early diagnosis of breast carcinoma and radical mastectomy would result in an almost universal control of the disease. If this were so, there should be progressive local tumor growth and dissemination in a linear relationship to time, with surgical intervention representing the critical variable in relation to survival. Black and Speer show, however, that data in the literature as well as their own studies suggest the existence of biological variability in human breast carcinoma. It appears that variations in biological behavior within this disease are of far greater importance in determining survival than speed of diagnosis or surgical intervention. The five-year survival is invalid as a criterion of cure. Five-year survivals are not appreciably influenced by delays of weeks or months before surgical intervention. The majority of so-called operable cases of breast cancer have already undergone occult dissemination at the time of surgery. The curative effect of radical mastectomy probably does not exceed 10%. Ultraradical surgical interventions to cure breast cancer are not consistent with the biological nature of the disease.

Ohio State Medical Journal, Columbus

49:585-672 (July) 1953

Sensible Approach to Childbirth. L. Hirsh.—p. 601.
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Polio Vaccination? S. Saslaw.—p. 607.
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Medical Culpability and Abrasive Treatment for Acne Scars. O. C. Blackledge.—p. 614.
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Psychoanalytic Review, Albany, N. Y.

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Psychodynamics in Fraternal Twinship Relations. B. Karpman.—p. 243.
Structural Analysis of Transvestitism. T. Hora.—p. 268.

Rocky Mountain Medical Journal, Denver

50:531-612 (July) 1953

Problem of Pancreatitis. R. M. Zollinger and T. Boles.—p. 554.
*Use of ACTH and Cortisone in Conjunction with Antibiotic Therapy in Management of Overwhelming Infections. L. W. Kinsell, L. Boling, L. Lewis and others.—p. 560.
Diabetic Retinopathy. E. S. Murphy.—p. 562.
Cataract—Modern Interpretation and Recent Surgical Technics. D. O'Rourke and A. G. Starr.—p. 565.
Colorado Psychopathic Hospital. R. R. Cohen.—p. 568.

Corticotropin, Cortisone, and Antibiotics in Overwhelming Infections.—Corticotropin and cortisone partially or completely suppress clinical manifestations of a wide variety of diseases resulting from specific infectious organisms. This suppression is not referable to inhibition of growth of the causative organism. Kinsell and associates state that corticotropin and cortisone have been administered over the past two years at their clinic to patients under reasonably well controlled conditions in an attempt to answer certain specific questions: 1. Is there a place for the use of these hormones in management of patients with severe nontuberculous infectious disease? 2. Is there any place for the use of corticotropin and cortisone in the treatment of patients with active tuberculosis? It was found that there appears to be a definite place for employment of corticotropin and cortisone, in conjunction with intensive antibiotic therapy, in the treatment of patients with infections of more than usual severity, i. e., infections that fail to respond adequately to chemotherapy alone. If hormonal therapy is to be used in such patients, it should be intensive initially, but should be decreased as rapidly as the patient's improvement permits. With the possible exception of tuberculous meningitis, corticotropin and cortisone are contraindicated in the presence of active clinical tuberculosis. This statement is subject to later revision. The use of diets high in protein and potassium, low in sodium and carbohydrate, and adequate in calories is imperative in all patients receiving corticotropin and cortisone.

Southwestern Medicine, El Paso, Texas

34:229-264 (July) 1953

Surgical Treatment of Bleeding Esophageal Varices. R. R. Linton. —p. 242.
Bilateral Retinoblastoma. C. P. Elsberg.—p. 244.
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34:265-304 (Aug.) 1953

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Annals of Rheumatic Diseases, London

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H.P.C. (3-Hydroxy-2-Phenylcinchoninic Acid) in Rheumatoid Arthritis. L. Mandel and G. D. Kersley.—p. 136.
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Fatal Complication Following Insulin Therapy in Rheumatoid Arthritis. N. R. W. Simpson and G. F. Trowbridge.—p. 142.
Nephrotic Syndrome Following Sodium Bismuth Tartrate Therapy in Rheumatoid Arthritis. J. W. Beattie.—p. 144.

British Medical Journal, London

1:1405-1460 (June 27) 1953

*Diabetic Myelopathy. H. Garland and D. Taverner.—p. 1405.
*Diabetic Neuropathy. C. Hirson, E. L. Feinmann and H. J. Wade. —p. 1408.
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Simple Depressed Fracture of Skull. L. Rogers.—p. 1431.
Teepol in Preparation of Sputum for Tubercle Culture. P. Browning, K. M. Calver and E. E. Paterson.—p. 1432.

Diabetic Myelopathy.—The reality of diabetic neuropathy without objective sensory loss became apparent to Garland and Taverner from clinical observation of the five patients whose case histories are presented. The youngest was 56 and the oldest 73. They all had diabetes of relatively short duration, varying from three years to six months. All complained of pain in the legs, which was always asymmetrical and sometimes unilateral. The pain, though diffuse, tended to be maximal in the hip and thigh. All showed wasting of the leg muscles and loss of the tendon reflexes in the legs. Four of the patients showed a high protein level in the cerebrospinal fluid. Electromyographic studies revealed changes, which seemed compatible with a myelopathic lesion. They are unlike the usual findings in peripheral neuritis. The authors feel that this is probably a form of diabetic neuropathy described by Bruns in 1890. Pathological studies were not possible on the present series of patients, but there were clinical features which suggested that the lesions may be present in their spinal cords. Not only was the disturbance limited to motor function but the distribution of the affected muscles was not compatible with the known distribution of peripheral nerves or nerve roots. The presence of extensor plantar responses in three, perhaps four, of the patients was unequivocal evidence of a central lesion. Whatever the nature and cause of the lesion in these patients, the authors felt that the existence of motor disturbances without objective sensory loss in diabetics, as described by Bruns over 60 years ago, was of clinical importance. These patients are being misdiagnosed as suffering from other, often more serious, neurological conditions. Treatment consisted of suitable diet, insulin treatment and physiotherapy. One patient continued to deteriorate for some months, but ultimately recovered completely. The oldest and least cooperative of the patients showed no change at the time of writing, four months after he was first seen; the other three improved rapidly after the institution of treatment. It seems possible that the natural history of this syndrome is one of spontaneous improvement, irrespective of the treatment employed.

Diabetic Neuropathy.—Hirson and associates found on routine examination of diabetic patients that neurological abnormalities were more the rule than the exception and that acute nervous diseases were by no means rare. They collected acute cases and examined a consecutive series of 100 diabetic outpatients. Of the 100 diabetic outpatients, 57 showed neural abnormalities and three had an acute neurological illness. To obtain more clinical information on acute neuritis in diabetes, the authors also studied 50 hospitalized diabetic patients. They found that about half of the patients with diabetes mellitus show evidence of neurological disease. They differentiate three types of diabetic neuropathy: First, the hyperglycemic form which is related to failure to control the diabetes and is rapidly relieved by proper treatment. The second is the active and most serious form of diabetic neuropathy, which is present in about 3% of diabetic patients; it is not related to the diabetic status and has a tendency to remission and relapse. The third form is asymptomatic and not disabling, but chronic and permanent. There is no evidence that arteriosclerosis or vitamin B_1 deficiency plays a part in the causation; the neuropathic process seems to be inherent in some cases of diabetes. Their observations support the view that diabetes is a disease-complex in which the metabolic disorder is only one manifestation, with neuropathy occurring not as a "complication" but as an integral part of a variable process. Sugar tolerance tests are of value in the investigation of obscure neurological disease. The production of gangrene, neurogenic bladder, and joint change by diabetic neuropathy is of practical importance.

Canadian Medical Association Journal, Montreal

69:1-96 (July) 1953

Some Aspects of Present Day War Surgery. A. M. Davidson.—p. 1.
Diathermy Fulgurization in Treatment of Certain Cases of Rectal Carcinoma. F. G. Kergin.—p. 14.
*Experimental Study of Intimal Ground Substance in Atherosclerosis. G. C. Willis.—p. 17.
Remarks on Chronic Ailments by Retired Internist. C. Hunter.—p. 23.
*Haematopathological Complications of Gold Therapy: Effects of Splenectomy and BAL. E. M. Watson.—p. 27.
Liver Function Studies on Alcoholics. G. L. McBroom and H. W. Smith. —p. 32.
Dextran in Treatment of Persistent Oedema. F. Chirico.—p. 35.
Dangerous Unnecessary Transfusion. R. Robinson, J. Kristiansen, L. Hunter and others.—p. 38.
Thrombophlebitis Migrans. J. W. Thomas, H. E. Taylor and W. J. O'Donnell.—p. 40.
Clinical Manifestations of Autism and Schizophrenia in Childhood. D. Cappon.—p. 44.
*Mumps Meningoencephalitis. D. Bowers and D. S. P. Weatherhead. —p. 49.
Herniated Intervertebral Disc with Sciatic Syndrome. H. H. Hepburn. —p. 55.
Nutrition and Public Health. J. H. Ebbs —p. 61.

The Intimal Ground Substance in Atherosclerosis.—According to Willis the mechanical stress important in the localization of atherosclerosis is a stretching of the arterial wall. This is influenced by arterial blood pressure, radius of lumen, curvature of artery and arterial fixation. This mechanical stress is counteracted by the components of the arterial wall. This stretching force may be linked with the stress which localizes lesions in scurvy. Because the primary changes in atherosclerosis are morphologically of the intimal ground substance at points of mechanical stress, Willis chose experimental scurvy as the ideal means of reproducing these conditions. A total of 145 guinea pigs was divided into the following dietary groups: (1) chronic scorbutic diet; (2) chronic scorbutic diet with oral ascorbic acid; (3) chronic scorbutic diet with cholesterol and oral ascorbic acid; (4) chronic scorbutic diet with cholesterol and intraperitoneal ascorbic acid; (5) acute scorbutic diet; (6) acute scorbutic diet with oral ascorbic acid; (7) acute scorbutic diet with cholesterol; and (8) acute scorbutic

diet with oral ascorbic acid and cholesterol. It was found that ascorbic acid deficiency in guinea pigs produces atherosclerosis regardless of whether the scurvy is acute or chronic. Atherosclerosis of scurvy occurs at normal cholesterol levels and without deposits of lipid in the reticuloendothelial system. This form of atherosclerosis thus closely simulates the human form of the disease. Intraperitoneal ascorbic acid greatly inhibits atherosclerosis of cholesterol feeding in guinea pigs. The ground substance disturbance associated with atherosclerosis is of major importance in the pathogenesis of arterial calcification, intimal hemorrhage, and thrombosis. Cholesterol feeding interferes with ascorbic acid metabolism in rabbits and in guinea pigs receiving oral ascorbic acid. Acute infection in guinea pigs produces minimal atherosclerosis in about 33% of guinea pigs studied. Thyroid and cortisone have no inhibitory effect on the atherosclerosis of cholesterol feeding in guinea pigs in a small series nor do they inhibit the atherosclerosis of scurvy. Massive parenteral doses of ascorbic acid may be of therapeutic value in the treatment of atherosclerosis and the prevention of intimal hemorrhage and of thrombosis.

Complications of Gold Therapy: Effects of Splenectomy and Dimercaprol (BAL).—Watson points out that of the complications associated with the therapeutic use of gold salts, those affecting the hemopoietic system are the most critical. They comprise thrombocytopenia, granulocytopenia, hypoplastic or aplastic anemia, occurring singly or in various combinations including pancytopenia. The manner by which the compounds of gold effect these several blood dyscrasias is debatable, but it is not inconceivable that they may act upon the spleen, initiating in some unknown manner a disturbance of its functions. By virtue of this conception the blood dyscrasias related to gold may be regarded pathogenetically as falling within the realm of secondary hypersplenism. A case of pancytopenia and two cases of thrombocytopenic purpura developing after the use of gold preparations are cited. In two of these, clinical and hematological improvement followed splenectomy. The administration of dimercaprol (BAL) to one patient failed to influence the thrombocytopenia.

Mumps Meningoencephalitis.—An epidemic of mumps occurred between December, 1951, and June, 1952, in a rural area of Saskatchewan and gave Bowers and Weatherhead an opportunity to study this disease. They estimate that about 250 cases of mumps occurred among a population of 3,500, this being the first epidemic in the locality since 1937. While the authors did not see all of the cases, they feel that most of those taking an atypical course were reported to them. A diagnosis of manifest mumps meningoencephalitis was established in 39 cases. Descriptions of the illness by telephone during the acute phase, and in personal interviews after recovery, convinced them that many additional cases of mumps meningoencephalitis occurred. The authors conclude that about 25% of all persons with mumps may be expected to manifest mumps meningoencephalitis. The authors believe that more frequent spinal fluid examination would demonstrate that many such patients have mumps meningoencephalitis. Mumps meningoencephalitis must be thought of in the diagnosis of all patients presenting with an acute viral disease of the central nervous system, even in the absence of a recent salivary gland or testicular enlargement. No specific therapeutic agent is available. Acetylsalicylic acid relieved many of the headaches, and with careful nursing supervision controlled the fevers. Dimenhydrinate proved of some value in arresting vomiting. Parenteral rehydration was required by several patients. In many instances the initial diagnostic lumbar puncture appeared to relieve distress. Repeated spinal drainage seemed of no avail. Initially, the authors attempted to insist on hospitalization until the spinal fluid cell count returned to normal. As the epidemic spread it was found that a patient could improve clinically while the spinal fluid cell count rose, and that of two patients, the sicker might have the lower cell count. For these reasons, repeated cell counts were discontinued, and patients were discharged for convalescence at home 48 hours after the temperature had become normal.

Deutsche medizinische Wochenschrift, Stuttgart

78:831-866 (June 5) 1953. **Partial Index**

Artificial Insemination in Human Subjects. K. Kohlberg.—p. 835.
*Vascular Murmurs in Peripheral Circulatory Disturbances. K. Holldack and E. Kuhn.—p. 842.
Method of Treatment of Laryngeal Carcinoma. R. Maurer.—p. 844.
*Streptococcic Enzymes (Streptokinase-Streptodornase) in Inflammation: Their Use in Enzymatic Decortication. T. Halse and P. Braun.—p. 846.
Pathologic Aspects of Hemolysis Resulting from Transfusion. H. U. Zollinger.—p. 847.

78:867-898 (June 12) 1953. **Partial Index**

Gout. E. Grafe.—p. 867.
Criticism of So-Called Positive Proof of Paternity According to Löns. P. Dahr.—p. 871.
*Question of Tuberculous Etiology of Boeck's Sarcoid. R. Doepfmer.—p. 873.
New Results of Medicinal Treatment of Arterial Hypertension. O. H. Arnold and K. D. Bock.—p. 879.
*Streptococcic Enzymes (Streptokinase-Streptodornase) in Inflammation: Their Use in Enzymatic Decortication. T. Halse and P. Braun.—p. 883.

Vascular Murmurs and Peripheral Circulatory Disturbances.—Holldack and Kuhn examined patients for murmurs in the large vessels. Frequently when there were other signs of peripheral circulatory disturbances, they found murmurs in the large vessels. Murmurs cannot be produced by compression of the abdominal aorta because its mobility is such that it cannot be compressed. To detect the vascular murmurs the stethoscope is pressed deeply into the abdomen. The "knocking tone," which is occasionally audible above these vessels, is readily differentiable from a murmur. In the presence of very thick abdominal walls the murmur may be very soft, and careful search is required, particularly if the intestinal peristalsis is loud. Studies on more than 1,000 persons revealed that in persons with a sound vascular system murmurs were never perceptible above the aorta or its two main branches, the iliac arteries. In patients with intermittent claudication or with other disturbances in the peripheral circulation murmurs are frequently detected over these vessels. The objection might be made that the aortic murmurs above the umbilicus are transmitted cardiac murmurs, because in this region the heart sounds are still audible. For this reason the authors made phonoangiographic records of the vascular murmurs, which revealed that these murmurs appear later than the heart sounds. Vascular murmurs were also occasionally perceptible in the carotid arteries in a patient with severe cerebral sclerosis, but generally murmurs are missing in the carotid arteries, even if sclerosis in this vascular region is severe. Auscultation of the aorta and iliac arteries and phonoangiographic registrations convinced the authors that these simple methods of examination provide information about pathological changes in the vascular walls. The absence of vascular murmurs does not necessarily prove that a vessel is normal, for completely obstructed vessels likewise do not produce murmurs and not all diseased vessels necessarily produce murmurs. The vascular auscultation method should be employed only in connection with other methods of examination. Vascular murmurs can be recorded at one or several sites in about 75% of patients with impaired peripheral circulation. The number of patients with disturbances in the peripheral circulation, obliterating endangiitis, or arteriosclerosis studied by the authors has now reached 48, and the frequency with which vascular murmurs were detected has remained about the same (75%).

Question of Tuberculous Etiology of Sarcoid of Boeck.—Doepfmer reports studies on 12 patients with Boeck's sarcoid, in whom the diagnosis was established by repeated clinical observation, histological studies, and roentgenologic findings. Animal experiments were made on guinea pigs, and excised specimens were cultured in Hohn's egg medium. Some of these patients had been observed for several years, and exploratory excisions had been taken for animal tests. Other patients had fresh foci in which presumably tubercle bacilli could be demonstrated only by the Kyrle method. Two animals were used for each investigation. In one test the biopsy specimen was cut up and dismembered by crushing it in a mortar in isotonic sodium chloride solution, and the suspension injected into the knee fold of one animal;

in the other animal, a piece of the biopsy specimen was implanted. Four weeks later the animals were tested with tuberculin. The animals were killed after three months and necropsy material obtained for subsequent passages from the regional lymph nodes and from suspensions of spleen or liver. Six passages were made in six patients with sarcoid of Boeck. In four patients three passages were made, and in three patients, so far, two passages. No indication of the presence of tuberculosis was obtained in any of these tests. None of the animals gave a positive tuberculin reaction. In further tests the tuberculosis complement fixation test was performed with tuberculosis antigen on patients with sarcoid of Boeck, on healthy subjects, and on patients with skin tuberculosis or scrofuloderma. Positive reactions were obtained in a small percentage of patients with sarcoid of Boeck, but some of the healthy subjects also had positive reactions, whereas only about two-thirds of the patients with lupus or scrofuloderma had positive reactions. The authors feel that these results do not prove a tuberculous etiology in sarcoid of Boeck.

Streptokinase and Streptodornase in Enzymatic Decortication.—Halse and Braun review the status of knowledge on the enzyme systems of the body which under physiological conditions liquefy fibrin not only intravascularly but also extravascularly. The fact that blood remains fluid in the large body cavities can be traced to the process of "decoagulation." Hematomas, hemarthrosis, or hemothorax can be evacuated only after this process has taken place. The fibrinolytic process represents a very sensitive enzymatic system which is easily impaired. Hemolytic streptococci produce an activator of fibrinolysin, known as streptokinase, and thereby are able to liquefy the fibrin membrane which is formed by the organism. Streptokinase can be used to accelerate the retarded "decoagulation." The penetration of streptokinase is facilitated by streptodornase, a true ferment or enzyme which is capable of breaking down the chief constituent of abscess membranes and of pus, namely desoxyribonucleoproteid. On the basis of viscosity determinations and of microphotograms examples are given to illustrate liquefaction of pus by means of streptodornase. The authors report their clinical experiences, which corroborate the observations of American authors on the therapeutic use of streptokinase and streptodornase in the treatment of septic surgical lesions. Repeated irrigations with these enzymes effected complete enzymatic decortication in 17 patients with residual osteomyelitic cavities. In eight cases considerable improvement resulted, whereas in three cases no result was obtained. Favorable results were also obtained in local treatment of superficial necrosis, chronic abscesses, pleural empyemas, and fistulas. In a total of 92 patients the results obtained were excellent in 59 and satisfactory in 21, whereas in 12 no influence could be observed. There were no undesirable secondary effects.

Gazeta Médica Portuguesa, Lisbon

6:277-428 (No. 2) 1953. **Partial Index**

*Acute Thyroiditis. Clinical and Therapeutic Study of Three Cases. J. A. de Mesquita Sampaio, S. Krynsky, H. Weber and L. Raimo.—p. 925.
Indications of Operation in Acute Obstruction of Small Intestine. S. Levy. —p. 347.
Acute Pancreatitis in Pregnancy: Observations in Obstetric Clinic. R. Briquet.—p. 373.

Acute Thyroiditis.—The authors report three cases of acute nonsuppurating thyroiditis. The patients were a boy, 17 years old, and two women, 42 and 64 years of age. In the first patient fluctuation of the thyroid was palpated. The exploratory puncture gave negative results. The disease was controlled by penicillin alone in doses of 100,000 units every four hours for four consecutive days. Upon discontinuation of the treatment for four days the disease reappeared, proved to be resistant to penicillin, and was controlled by the combined treatment with penicillin, sulfadiazine, and short waves. In the second patient the condition was caused by the infection of the maxillary and facial sinuses. Both sinusitis and thyroiditis were controlled by the treatment with penicillin, sulfadiazine, and local application of short waves. In the third patient the disease was due to infectious tonsillitis. The combined treatment given for 10 consecutive days was ineffective. Cure was obtained after tonsillectomy. The patients are well three to three and one-half years after the treatment. The author advises the use of penicillin alone, when penicillin-sensitive micro-organisms can be identified as cause of the infection. Short waves applied to the thyroid are of value in the treatment. Surgical therapy should be restricted to cases of suppurating thyroiditis or to cases in which acute complications of thyroiditis occur, such as mediastinitis, edema of the larynx, pressure upon the trachea and rupture of an abscess into an adjacent region; all of these require immediate surgical intervention.

Lancet, London

1:1261-1318 (June 27) 1953

*Headache and Hypertension. I. McD. G. Stewart.—p. 1261.
Intra-Arterial Transfusion: Potassium Hazard. D. G. Melrose and A. O. Wilson.—p. 1266.
*Poliomyelitis Following Inoculation: Survey of 29 Children. D. Geffen, J. H. Paterson and S. M. Tracy.—p. 1268.
Method of Treatment for Varicose Veins. M. G. Wilson.—p. 1273.
Assessment of Adrenocortical Activity by Assay of 17-Ketogenic Steroids in Urine. J. K. Norymberski, R. D. Stubbs and H. F. West. —p. 1276.
Thiouracil in Pregnancy: Its Effect on the Foetus. N. Elphinstone. —p. 1281.
Transient Hypothyroidism in Newborn Infant. D. Morris.—p. 1284.
Radio-Electrophysiologogram: Radio Transmission of Electrophysiological Data from Ambulant and Active Patient. C. S. Parker, C. C. Breakell and F. Christopherson.—p. 1285.

Headache and Hypertension.—Persons with hypertension often complain of headache, dizziness, shortness of breath, or even of losing their tempers. It does not follow, however, that the blood pressure is to blame. In a survey of 200 consecutive patients with severe hypertension an assessment was made of the symptom of headache by an interrogation technique designed to avoid suggestion. Patients who were aware and those who were unaware of their hypertension were compared. The severity of the hypertension was found to be about the same in the two groups as regards the diastolic level, electrocardiograms, and roentgenologic appearance of the left ventricle. Retinal changes were somewhat greater in those with headache. Of 104 patients unaware of their hypertension, 87 would not admit to having headache. This tendency for headache to be absent persisted through all grades of diastolic pressure. Only three of these patients stated spontaneously that they had headache and 14 others admitted they had headache on questioning. Of 96 patients who were aware of their hypertension, 71 complained of headache, most of them in terms characteristic of anxiety. Analysis of the remaining 25 revealed that 18 had organic cause of complaining of something else and 6 offered symptoms characteristic of anxiety. From these observations together with evidence obtained from the examination of controls Stewart concludes that the headache which so often accompanies hypertension is usually a product of anxiety. It seems almost impossible for a patient who has been told of his "blood pressure" to remain free of symptoms. It appeared that hypertension might occasionally produce headache as an organic symptom. This was most likely in menopausal women during the early stages of benign hypertension, or, as a relatively insignificant feature, within the syndrome of malignant hypertension. It is a fallacy to acclaim any treatment of hypertension in virtue of its alleged cure of headache.

Poliomyelitis Following Inoculation.—Geffen and associates cite previous reports on the association between immunization and paralytic poliomyelitis, calling particular attention to Geffen's own report in 1950. Reference was made to 37 children, of whom 30 had developed poliomyelitis within a month of immunization, the site of paralysis being the site of injection. None of these subsequently died, and 27 of these 30 children were examined some two years later. Hospital records of the illness and present condition were available of two of the other three children. The extent of the recovery in these 29 children was compared with that of another 23 children who had not had any recent injection but who had poliomyelitis at about

the same time in London in 1949, who were of approximately the same age, and in 21 of whom an upper limb was one of the limbs affected. The average interval between inoculation and the onset of poliomyelitis was 13 or 14 days: in over 80% of cases it was between 5 and 16 days. It is probable that three weeks after inoculation the period of risk has passed. The preparalytic symptoms recorded in the 29 inoculated children were in the main similar to those observed in the controls. The paralysis of poliomyelitis following recent inoculation appears to be relatively limited in extent, but it is nearly always severe. Recovery of the limb appears to depend on the initial severity of the paralysis, irrespective of whether the limb has been inoculated or not. The extent of recovery which took place in two and a half years in both the inoculated and control groups was related to the severity of the original paralysis. In the 29 inoculated children there was no information that the inoculations were intramuscular rather than subcutaneous. It is considered doubtful if immunization at an earlier age would prove effective in avoiding post-inoculation poliomyelitis. It has not been proved that lay publicity on post-inoculation poliomyelitis is the reason for recent reduction in the number of children immunized against diphtheria. The authors are of the opinion that the public is entitled to have the facts put before them clearly.

Minerva Medica, Turin

44:1313-1344 (May 19) 1953. **Partial Index**

*Salvioli's Diffusing Vaccine (V.D.S.) in Prophylactic Inoculation of Man Against Tuberculosis. G. Salvioli.—p. 1313.
Diagnosis of Pulmonary Echinococcosis by Means of Rare Laboratory Finding. E. Poli and A. Gianni.—p. 1320.
Exceptional Case of Subacute Bacterial Endocarditis Caused by Bacillus Faecalis Alcaligenes: Treatment with Penicillin Combined with Sulfonamides. A. Berengo and E. Bussinello.—p. 1322.

Salvioli's Diffusing Vaccine for Antituberculous Vaccination.—Salvioli's diffusing vaccine (V. D. S.) for immunization against tuberculosis consists of killed human and bovine tubercle bacilli combined with hyaluronidase. It is prepared by suspending 3.75 mg. of Koch's bacilli in 1 cc. of isotonic sodium chloride solution and heating the suspension to 100 C for 10 minutes. The suspension is returned to laboratory temperature, and hyaluronidase is added to it in the ratio of 30 viscosity units to 1 cc. This preparation is placed in 0.2 cc. or 1 cc. ampuls, which are then lyophilized. At the time of the vaccination water is added in an amount equal to that which was removed by the lyophilization process. The 0.2 cc. ampul contains 0.75 mg. of killed bacteria and 6 viscosity units of hyaluronidase. It is the effective dose for a newborn infant or a nonallergic infant less than one year old. Half of this ampul is sufficient for one school age child or one adult. The 1 cc. ampul thus contains enough preparation to vaccinate 5 newborn infants or 10 adults. The best location for the vaccination is the inner aspect of the forearm, and the intradermal route has proved to be the best way of administration. The vaccinal focus manifests itself as a small swelling that lasts from two to four months. The second phase of the inflammatory process is characterized by a reactivation of the focus during which the swelling becomes more pronounced, a small eschar is produced, and in many instances there is interstitial exudation and necrotic phenomena in the outer layer of the skin. Later a crust is formed and then a scar. Salvioli studied 334 persons, 6, 12, and 18 months after they had been vaccinated with this vaccine. An allergic state was present in all newborn infants and all adults (up to 18 years of age) 18 months after the vaccination. All of these persons had had a patent vaccinal reaction. Allergization had been secured, however, in only 85 to 90% of the children between the age of 4 and 6 years. There was no patent reaction in some of these, but a slight depression of the skin in the area where the vaccine was injected indicated that the reaction was taking place in the hypoderm. A focus did not appear in 16 of these 40 children and in 3 of them the allergic state had not been secured 18 months after the vaccination. The same dose of vaccine (0.37 mg. of killed bacteria and 3 viscosity units of hyaluronidase) was used for these children as for the older ones. But since the reaction to this vaccine is more pronounced in older children, the author ascribes these inconstant results to an insufficient dose of vaccine. A dose which will produce the allergic state in all children between 4 and 6 years of age has not as yet been established.

44:1345-1388 (May 23) 1953

Diabetes Mellitus and Pulmonary Tuberculosis. P. Stanganelli.—p. 1345.
*Streptomycin Level in Spinal Fluid of Patients with Tuberculous Meningitis Under Treatment in View of Eventual Enzymatic Action or Changes in Meningeal Permeability. A. Pani.—p. 1361.
Hollander's Method for Evaluation of Gastric Secretion and of Pylorus Emptying Time with Reference to Use of New Synthetic Anticholinergic Drug. P. Spigliati.—p. 1368.
Isoniazid in Exudative Pleurisy. C. Ceresa and M. De Blasiis.—p. 1370.

Streptomycin in Spinal Fluid of Patients with Tuberculous Meningitis.—Studies were made to determine the factors which may influence the amount of streptomycin present in the cerebrospinal fluid of patients with tuberculous meningitis treated with this antibiotic. Hypotheses were advanced that there could be some enzymatic action on the antibiotic due to the presence of bacterial catabolic products in the fluid itself, pathological tubercle products in the specific meningeal lesion, or proteins of blood origin produced by alterations in the hematoencephalic barrier. In the first study patients with the disease who were being treated with streptomycin were not given the antibiotic for 24 hours and 2 to 3 cc. of spinal fluid were removed from each patient. Then 1 cc. of the fluid was added to a streptomycin solution so that 1 cc. of the resulting solution contained 40 mcg. of the antibiotic. This was also added to 1 cc. of isotonic sodium chloride solution in the same ratio and both solutions with the remaining spinal fluid were placed in a thermostat at 37 C. After eight hours there was no antibiotic in the cerebrospinal fluid whereas there were still 40 mcg. of streptomycin in each of the other two solutions. Thus there was no substance in the fluid of these patients that inhibited even partially the antibiotic. The author then studied the eventual influence of the meningeal permeability on the presence of the antibiotic in the fluid of other patients. He made the study on 14 patients, of whom 12 had tuberculous meningitis and had been receiving the drug for varying periods. The renal function was not impaired in any of them. After a treatment-free period of several days, each patient was given 0.75 mg. of streptomycin per kilogram of body weight intrathecally. The urine was collected and blood specimens taken four and eight hours later, while cerebrospinal specimens were taken eight hours later by the suboccipital and the lumbar routes. He found that the antibiotic escapes rapidly from the spinal fluid of patients in whom the disease is of recent onset. This is ascribed to hypersecretion of the choroid plexuses, and therefore hypertension of the fluid, while the pathways of drainage are not impaired by the disease. Patients in whom the disease is of long standing retain the antibiotic in the lumbar space when a complete or partial block develops and in the leptomeningeal space when there are alterations of the pacchionian bodies. The retention of streptomycin in the spinal fluid may also be caused by sclerosis and calcification of the plexuses. These alter the vasomotor and secreting sympathetic fibers and thus cause changes in the production of ventricular fluid; a decreased ventricular secretion of the subarachnoid spaces retards the drainage of the fluid and therefore of the antibiotic. Another possibility is the occurrence of biochemical changes in the meningeal collagen tissue, as happens in meningeal inflammation of long duration, with a consequent reduction of the meningeal permeability. A definitive evaluation is not possible yet. The varying levels of streptomycin in the cerebrospinal fluid of patients with tuberculous meningitis are due to a greater or lesser permeability of the hematoencephalic barriers, and also to the various mechanisms which influence directly or indirectly secretion, circulation, and drainage of the cerebrospinal fluid.

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Nordisk Medicin, Stockholm

49:701-734 (May 15) 1953. **Partial Index**

Sanatorium Treatment of Neuroses. G. Belling.—p. 704.
Electromyography in Neurologic Disorders. A. Lundervold.—p. 706.
*Epidural Space in Polyradiculitis (Landry-Guillain-Barré Syndrome). Peripachymeningitis Spinalis. N. Antoni.—p. 709.
Pathogenesis in Disseminated Sclerosis. I. Persson.—p. 713.
Differential Diagnosis in Neurogenic Impairment of Hearing. T. Lundborg.—p. 714.

Epidural Space in Polyradiculitis (Landry-Guillain-Barré Syndrome): Spinal Peripachymeningitis.—In the first of the four cases of polyradiculitis reported death from respiratory paralysis occurred on the 13th day; interstitial round cell infiltration was found in the peridural adipose tissue. In the third and mild case, where the patient was improving rapidly, pulmonary embolism caused sudden death five weeks after the onset; microscopic examination revealed slight changes corresponding to the mild nature of the disease. In the second case, with death from respiratory paralysis and circulatory collapse after four weeks, the cerebrospinal fluid was yellowish, with greatly increased albumin content. The degeneration of peripheral nerves and spinal cord was pronounced. Antoni believes that with the extensive and marked paralysis, intact anterior roots and strongly degenerated posterior roots the lesion must have been extradural. The degeneration of the posterior root system is secondary or wallerian. In the cervical, dorsal and lumbosacral region the epidural tissue showed an irregular disseminated intensive round cell infiltration, partly perivascular, in places with hemorrhages. Adipose infiltration of this kind might explain the pronounced hyperemia of the intradural structures, the increased albumin content of the cerebrospinal fluid and the mainly secondary character of the histologic changes revealed in the peripheral nerves, spinal roots and spinal cord. In the fourth case, clinically diagnosed as spinal peripachymeningitis in the middle thoracic region, chest roentgenograms showed left basal bronchopneumonia. Penicillin treatment resulted in rapid improvement and recovery.

Pédiatrie, Lyon

8:485-586 (No. 4) 1953

*Study of 47 Strains of Koch's Bacillus Isolated During Primary Tuberculous Infection in the Child: Their Sensitivity to Streptomycin and Their Species. A. Bertoye, J. Viallier, P. Galiois and L. Delaruelle.—p. 485.
How to Consider the Etiology and Pathogenesis of Rhinobronchorrhea and Bronchiectasis in Infancy. Arguments Drawn From 298 Cases. M. Roche.—p. 491.

Study of Many Strains of Koch's Bacillus.—Koch's bacilli obtained from children with primary tuberculosis were studied in relation to their sensitivity to streptomycin and their species. Specimens, obtained by gastric washing and guinea-pig inoculation, consisted of 40 strains isolated before, and seven strains isolated during treatment with streptomycin. The limit of therapeutic efficiency is usually set at a level of 10 mcg. per cc.; of the 40 strains isolated before treatment, all were sensitive to streptomycin, only two requiring as much as 10 mcg. for their inhibition. Indications for streptomycin in primary infection are limited, and bacilli are not often found in gastric washings after streptomycin therapy has been started; consequently, the number of strains isolated during treatment was small, but of the seven found, six were sensitive to concentrations of 1 mcg. and only one required 10 mcg. for inhibition. The age of the children, all of whom were less than 3 years old, and the noncavitary form of the disease were apparently important factors in the continued streptomycin sensitivity of the bacilli; combined therapy, which delays the appearance of streptomycin resistance, had been given to only two of the seven children. None of the 47 strains examined belonged to the bovine variety of M. tuberculosis, although certain factors usually taken to indicate a bovine origin for the disease, such as the onset of illness during vacations in the country and the drinking of raw milk, were present in several cases. The nonexistence of streptomycin-resistant bacilli in the untreated children and the nonappearance of resistant strains in children under 3 subjected to streptomycin therapy are in marked contrast to the conditions found in adults.

Policlinico (Pract. Sect.), Rome

60:739-776 (May 25) 1953

*Some Epidemiological, Clinical, and Laboratory Data of Influenza Epidemic in the Rome Area During 1952-1953. D. Balducci, G. Boemi and A. Felici.—p. 739.
Behavior of Sugar, Phosphorus, Pyruvic Acid and Lactic Acid in Blood of Patients with Induced Elevated Temperature After Glucose Administration. E. Malizia, L. Scapellato and V. Boccardelli.—p. 744.
One Year of Antituberculous Therapy with Isoniazid: Observations and Comments. B. Boggian.—p. 748.

Study of Influenza Epidemic of 1952-1953 in the Rome Area.—Approximately 300 persons were treated by the authors during the influenza epidemic which occurred in the Rome area during the winter 1952-1953. The first cases were reported in the latter half of December in persons living in the vicinity of the International Airport of Ciampino (Rome). An outbreak had been previously reported at the beginning of the same month in the United States in the state of Missouri and simultaneously in Tokyo. These might have been the initial foci from where the epidemic spread. The course of the disease in the authors' patients was typical, with a sudden onset, chills, indisposition, pain in the muscles and joints, headache, cough, and elevated temperature. The only atypical symptom was vomiting, which appeared on the first or second day of the illness and lasted no longer than 24 hours. It had all the characteristics of a cerebral vomiting, probably of toxic pathogenesis. Besides tracheobronchitis, there was involvement of the Eustachian tube, middle ear, and paranasal sinuses, especially during the later period of the epidemic. Studies on the blood serum of 72 patients indicated that an A' virus was responsible for the epidemic. The throat washings of 10 patients were inoculated in embryonated eggs, and two strains of virus were isolated. According to the authors and the World Influenza Center in London, these strains resembled closely the 1950-1951 Scandinavian type. They were called A-Rome (1-53) and A-Rome (7-53).

Presse Médicale, Paris

61:805-824 (June 6) 1953. **Partial Index**

*Effect of Certain Pyrazol Derivatives on General and Functional Symptoms in Serofibrinous Pleurisy and Pulmonary Tuberculosis. M. Pestel and A. Ravina.—p. 805.
*Results of Treatment of 115 Cases of Hyperthyroidism with Radioactive Iodine. M. Tubiana, J. Dutreix and M. Grinberg.—p. 807.
So-Called Deceptive Aspects of Bronchopulmonary Cancer. M. Rymer, P. Weiller and E. Habib.—p. 809.
Practical Utilization of ACTH by the Intramuscular Route in Combination with Depot-Penicillin. E. Aron and R. Lecomte.—p. 811.

Effect of Pyrazol Derivatives on Serofibrinous Pleurisy and Pulmonary Tuberculosis.—The mediocre results obtained with antibiotics in patients with tuberculous serofibrinous pleurisy prompted a trial of anti-inflammatory substances. A combination of phenylbutazone and aminopyrine in equal quantities, known in Europe as Irgapyrin and in America as Butapyrin, was used first; later, the second derivative, phenylbutazone (Butazolidin), was used alone. Fever disappeared rapidly in all the pleuritic patients treated with these drugs and they obtained pronounced relief of pain and dyspnea. Similarly good results were secured in patients with pleurisy complicated by pulmonary lesions; even patients with pulmonary tuberculosis who were virtually in extremis when brought to the hospital became less fatigued and dyspneic after receiving the drugs. The effect of the pyrazol derivatives was seen chiefly in the general condition; the temperature fell rapidly, sometimes to 36 or 35 C, and this decline was accompanied by a feeling of relief, cessation of chills and malaise, and improvement of the functional symptoms. Physical signs, on the other hand, were unchanged and the course of the pleural process was apparently unaltered. The beneficial effect of the drugs seems to be the result of their anti-inflammatory and anticongestive action, and this fact may well lead to a reconsideration of the significance of general inflammatory phenomena in the development of pulmonary tuberculosis. Recognition of the antalgesic effect of the pyrazol derivatives in numerous disorders is increasing; the rapid relief they afford in pleurisy and severe tuberculosis makes their prompt administration to patients with these conditions advisable.

Radioactive Iodine Treatment in Hyperthyroidism.—I^{131} is the treatment of choice in all cases of hyperthyroidism in which surgical procedures are contraindicated. Improvement does not usually become apparent until one month after ingestion of the therapeutic dose, and a definitive estimate of the results of treatment cannot be made before the end of three months because the patient's condition may continue to improve throughout that period, and even afterwards in some cases. Adequate quantities of I^{131} first became available to the French in 1949; since then, 115 hyperthyroid patients, almost all of whom were ambulatory, have been treated at the Hôpital Necker and the Institut Gustave-Roussy, with excellent results in 66%, moderate results in 18%, and failure in 11%. Continued improvement under therapy in some patients or possible relapses in others may lead to revision of these figures. I^{131} is easily administered and free from immediate danger, but it should not be given to patients under 40 because of the possible late development of radiation injury. Pregnancy is an absolute contraindication to its use. It is well tolerated, even by patients in poor general condition and those with thyroid heart disease; some of the patients in this series gained from 20 to 40 kg. in weight and were enabled to resume a normal life. I^{131} acts by reducing the functional activity of the thyroid tissue; its effects resemble those of subtotal thyroidectomy, but the reduction in thyroid function is more gradual.

Revista Clínica Española, Madrid

49:151-218 (May 15) 1953. **Partial Index**

Metabolism of Uric Acid and Diabetes Mellitus. J. Andreu Urra and M. Ríos Mozo.—p. 160.
*Outbreak of Trichinosis Treated with ACTH. P. Alvarez Buylla, J. A. Llavona and P. F. Villarroya.—p. 168.
Pulmonary Nocardiosis. Two Cases. R. de Urioste and I. Medarde. —p. 173.
Physiopathology of Emotion. J. Simarro-Puig.—p. 181.

Corticotropin in Trichinosis.—Corticotropin (ACTH) and cortisone rapidly control fever and symptoms of trichinosis. Only three reports on the good results of these drugs in five cases have been reported in the literature. The authors gave corticotropin to eight patients in the acute stage of the typical disease with hyperleukocytosis, hypereosinophilia, and a strongly positive diazo reaction in the urine. The drug was given in an average daily dose of 60 mg. up to a total dose of from 180 to 980 mg. in from 3 and 18 days. The results were spectacular. Fever, dyspnea, muscular pain, stiffness and the nervous symptoms were controlled within 24 hours. The white blood cell count became normal, eosinophilia disappeared, and the diazo reaction in the urine became negative in some cases but not in all. Discontinuation of the treatment caused reappearance of the disease in one patient, although with milder symptoms. The disease was controlled by further administration of the drug for one week or 12 days. Cortisone was given to a patient for two days in a total dose of 500 mg. without effect. The authors believe that trichinosis is due to an allergic inflammatory reaction of the tissues which is favorably modified or controlled by corticotropin. The tissue reaction lasts as long as the parasites have not reached the phase of encystment which marks the period of asymptomatic latency of the disease. The diazo reaction in the urine is positive in the allergic phase and negative in the phase of encystment. The treatment should be continued until a negative diazo reaction in the urine is obtained.

Schweizerische medizinische Wochenschrift, Basel.

83-507-530 (May 30) 1953. **Partial Index**

Patients with Heart Disease. R. Siebeck.—p. 507.
*Loss of Hair After Anticoagulant Therapy. R. Fischer, J. Bircher and T. Reich.—p. 509.
Studies on Problem of Goiter: V. Structure of Goiter and Types of Goiter; Experimental Study. F. Blum.—p. 513.

Loss of Hair After Anticoagulant Therapy.—The authors examined 87 patients who six months to two years previously received anticoagulant therapy. Eleven patients had been treated with a synthetic heparin preparation (Thrombocoid), 25 with bishydroxycoumarin (Dicumarol), 11 with ethyl biscoumacetate (Tromexan ethylacetate), and 40 with pure heparin (Liquemin) or synthetic heparin followed by bishydroxycoumarin or ethyl biscoumacetate. Loss of hair took place in 5 (45%) of the patients treated with synthetic heparin alone, in 11 (44%) treated with bishydroxycoumarin alone, in 4 (36%) treated with ethyl biscoumacetate alone, and in 31 (78%) treated with heparin and coumarin preparations. The loss of hair was noted after an average latent period of eight weeks and continued for about six weeks on the average. The duration of the anticoagulant therapy and the age of the patients did not play a significant part. The incidence of loss of hair was relatively higher in women. The loss of hair was diffuse, similar to that of symptomatic diffuse alopecia after thallium poisoning or severe toxic conditions. Ten of the authors' patients had been given various proprietary vitamin preparations, such as vitamin C (Redoxon), a mixture of vitamin B_1 and acetylcholine chloride (Benerva), and vitamin B_{12}, B_2 and B_6 (Becozym) simultaneously with the anticoagulants, but the loss of hair was not affected by this combined treatment. The prognosis of the condition is favorable since growth of hair recurred in all patients except for two men in the families of whom other cases of alopecia occurred. Treatment of loss of hair is only of psychological value. At present no drug is known that could prevent the loss of hair.

Ugeskrift for Laeger, Copenhagen

115:831-878 (May 28) 1953. **Partial Index**

*Renal Osteodystrophy. Review. P. J. Dragsted and H. Hjorth.—p. 831.
*Improved Results in Treatment of Bronchogenic Cancer. J. L. Hansen and T. Kjaer.—p. 836.
Polyethylene Protheses for Tympanic Membrane and for Middle Ear. J. Falbe-Hansen.—p. 841.
Heart Patients and Rest in Bed: "Bed Chair." C. S. Schwensen.—p. 849.
Pelger-Huet's Nuclear Anomaly ("False" Shifting to Left). C. M. Plum —p. 853.
Thornell's Operation in Bilateral Paralysis of Recurrent Nerve. J. C. Nielsen.—p. 855.

Renal Osteodystrophy.—Dragsted and Hjorth discuss the different forms of renal rachitis and osteomalacia. Based on pathogenesis and clinical symptoms, a distinction is made between renal osteomalacia due to glomerular affection and that due to tubular affection. The bone disorder of the first group depends on acidosis in combination with phosphate retention. Roentgenologically it is manifested as an osteitis fibrosa cystica. Bone disorders of the second group are partly congenital and depend on reduced phosphate reabsorption in the tubuli; the glomerulus function is normal. The lowered phosphate reabsorption may be combined with reduced reabsorption of glucose, amino acid, potassium, water and with disturbances in the renal regulation of the acid-base equilibrium of the organism. In adults the symptoms are osteomalacia, possibly with Milkman fractures, and in children, dwarf growth. The characteristic changes in blood chemistry are low serum phosphorus and increased alkaline phosphatase. In cases accompanied by disturbances in acid-base regulation there is hyperchloremic acidosis. Treatment consists in administration of vitamin D in doses up to 500,000 units daily together with calcium phosphate, under control of the serum calcium and serum phosphorus, and in cases with acidosis, correction of this with sodium citrate.

Improved Results in Treatment of Bronchogenic Cancer.—Hansen and Kjaer's material consists of 638 consecutive cases of verified primary bronchogenic cancer treated from 1944 to July, 1952. During the first three years resection could be successfully carried out in only 8.1% of the cases: now the percentage is 41.6. During the first five pneumonectomy was necessary in 88.1% of the resectable cases; in 1951-1952 pneumonectomy was done in 59.4%, bilobectomy in 9.4%, lobectomy in 20.8%, and segmental resection in 10.4%. The mortality in hospital and during the first two weeks after discharge has been about constant, around 25%. It is twice as high in pneumonectomy as in smaller resections. Increased attentiveness of physicians and patients to early symptoms of cancer of the lungs and more frequent intensive examination of all cancer suspect pulmonary diseases together with cooperation with the central tuberculosis station have contributed to the progress in the fight against cancer of the lungs.

BOOK REVIEWS

A Handbook of Radiotherapy. By Walter M. Levitt, M.D., F.R.C.P., F.F.R., Associate Physician to Department of Radiotherapy, St. Bartholomew's Hospital, London. Cloth. $6.50. Pp. 232, with 53 illustrations. Paul B. Hoeber, Inc. (medical book department of Harper & Brothers), 49 E. 33rd St., New York 16, 1952.

The author, an experienced radiotherapist, has compressed most of the essentials of radiotherapy into a small book. In such a concentrated presentation it is necessary to pick and choose, especially when traversing growing and changing fields, but the philosophy and the technique outlined here have as wide and well-founded an acceptance as any that could be presented. The first three chapters are devoted to radiation physics and apparatus. Next are two chapters on radiobiology and its clinical relationships. Chapter 6 covers the management of the patient receiving radiation. The remainder of the text presents the principles of management and of treatment technique in malignant, and some benign, diseases, with a chapter devoted to each of the anatomic areas or systems of radiotherapeutic interest. The illustrations are well chosen diagrams, photographs, and radiographs. One appendix is a summary of the Portmann classification of breast carcinoma and of the League of Nations classification of uterine cervix carcinoma. A second appendix is an abstract of the International Recommendations on Radiological Protection (Sixth International Congress, 1950). There is an adequate index and a small bibliography of limited value.

The author has confined his discussion closely to radiation therapy, so closely, in fact, that no mention is made of the mustard compounds in the treatment of the malignant lymphomas, or of hormones in breast cancer. On the other hand, surgery, when the primary, alternative, or supplementary treatment, is adequately presented in its proper perspective. Mention of the artificial radioisotopes is confined to the clinically established P^{32} and I^{131}. They are presented as part of the general discussion of the treatment of those diseases in which they are of value. One short paragraph about metastatic tumor deposits in bone does not give the subject quite the consideration it warrants. The book is practical rather than theoretical. It is too concise for the unaided novice in the field. It is well adapted to the needs of the postgraduate student and to the general practitioner of radiology.

A Treatise on Hygiene and Public Health with Special Reference to the Tropics. By Birendra Nath Ghosh, F.R.F.P.&S., F.R.S. Thirteenth edition. Cloth. Rs. 17/8; 25s. 6d. Pp. 787, with 151 illustrations. Scientific Publishing Co., 85, Netaji Subhas Road, Calcutta-1, 1953.

The fact that this textbook is now in its 13th edition is ample evidence of its value and popularity. The author possesses Scottish fellowship qualifications and is well acquainted with the topics traditionally taught in courses of hygiene and public health in the universities and institutes of public health in the United Kingdom. Revision of the text necessitated the rewriting of certain sections and the adding of others. The text is profusely illustrated with diagrams, photographic reproductions, and tables. Much of the text appears in smaller type than the ordinary reading type, and thus a compendium of detailed information is compressed into small bulk, a veritable *multum in parvo*. The greater part of the book is taken up with environmental hygiene, discussing such subjects as water and water supply, air and ventilation, the soil and its formation, housing, disposal of refuse and human excreta, sewage disposal, climate and meteorology, village sanitation, sanitation of fairs and religious festivals, and camp sanitation. These chapters reflect the state of the public health in an overpopulated country like India. The chapters on food, diet, and vegetable and animal foods contain frequent references to conditions in India. The statement (page 225) that flash pasteurization of milk does not give a satisfactory result is unacceptable.

There are interesting chapters on mental hygiene, maternity and child welfare, medical inspection of schools, infection and carriers of infection, animal parasites, epidemiology and preventable diseases, and vital statistics and statistical methods. The final chapter deals with social medicine but is rather disappointing, as it appears to confuse social medicine with socialized medicine. Ryle's concept might have been more explicitly outlined and examples quoted. The illustrations of the insect vectors of disease in chapter 21 would be improved by an indication of size. The newer knowledge of the exoerythrocytic cycle of the malaria parasite in chapter 24 is described, but the schematic representation of the life cycle would have benefited by a color plate. The technique of performing the Schick test (with control) and the reading and interpretation of the tests should have been more carefully described. Recent work has shown that 1/100 to 1/250 unit is a more probable level of diphtheria antitoxin per milliliter of blood serum than 1/30 unit in a negative Schick test. The text suffers from blemishes in frequent errors in spelling and in terminology and could not be recommended for medical students in North American universities.

Essential Urology. By Fletcher H. Colby, M.D., Chief of Urological Service, Massachusetts General Hospital, Boston. Second edition. Cloth. $8. Pp. 650, with 352 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1953.

It is refreshing to read this excellent book. The volume has been designed for use by medical students, residents in urology, practicing urologists, and general practitioners. The text is divided into three parts. The first portion includes the embryology, anatomy, and physiology of the genitourinary organs. The second division deals with the examination of the urologic patient. The last, and largest, section embraces a comprehensive discussion of the diseases of the genitourinary tract. The book contains eight charts. The figures are composed of urograms, anatomic drawings, photographs, and photomicrographs. The bibliography is recent, relevant, and critically selected.

The author states that his objective is "to give the important facts of embryology, anatomy, physiology, and diseases of the genitourinary organs." The preceding statement is a key to the reason for the outstanding quality of this book. Unlike many works in the field of medicine this book is largely based upon sound experimental evidence and not on clinical impressions. The author is to be commended for his ability to separate the "wheat from the chaff." The material is presented in a uniform and lucid style. It is believed that the text could be improved in some respects; for example, in the section on examination of the urological patient, greater emphasis should have been placed on the significance of hematuria and the type of examination almost invariably required when this sign appears. This book is highly recommended to students, residents, urologists, and practitioners of medicine in general.

The 1952 Year Book of Obstetrics and Gynecology (July, 1951-June, 1952). Edited by J. P. Greenhill, B.S., M.D., F.A.C.S., Professor of Gynecology, Cook County Graduate School of Medicine, Chicago. Cloth. $5.50. Pp. 575, with 98 illustrations. Year Book Publishers, Inc., 200 E. Illinois St., Chicago 11, 1952.

This valuable yearly review of obstetrics and gynecology is ably edited to present abstracts of publications of the past year considered most important in these fields. The result is an excellent review of the literature punctuated by cogent editorial comment.

These book reviews have been prepared by competent authorities but do not represent the opinions of any official bodies unless specifically so stated.

QUERIES AND MINOR NOTES

WORK IN URANIUM MINES

To the Editor:—*A man has been working in a uranium mine for three and one-half months. He works nine hours daily in the mine, and the ore mined contains from 0.2 to 0.7% uranium. No attempt is made to determine the degree of contamination among the workers, who wear ordinary work clothes, but there is extreme radioactivity in the mine as determined by a Geiger counter. To date, this man has felt no ill effects. Is it dangerous for him to continue this work?*

M.D., Utah.

Answer.—The radioactivity of most uranium ore is so low that damage from uranium would be more significant from the standpoint of chemical toxicity than from that of radioactivity. Absorption from the intestinal tract of uranium as present in ore is extremely slight. The chief hazard in a uranium mine, if the ore is in hard rock, is silicosis. So far as radioactivity is concerned, the significant hazard in a uranium mine again is not from the uranium itself but from the associated radon, which is usually present as a contaminant of the air. The risk related to radon varies with its concentration and with the amount of dust on which its decay products may be precipitated. The concentration varies from mine to mine. It may be controlled by ventilation. Long exposure to radon-contaminated air may be tolerated before there is evidence of harm. Most of the bronchial cancers encountered in the Schneeberg uranium miners did not develop until after 17 or more years of exposure to unfavorable conditions.

UNEXPLAINED SWELLINGS

To the Editor:—*In a 17-year-old boy swelling of the right ear developed two years ago, persisted for eight months, and then slowly regressed. Six months later the opposite ear underwent a similar enlargement and regression. During this time the boy felt well. A year after the last episode of edema, the muscles of the right leg gradually enlarged until the circumference was about one-third greater than that of the left leg. There was no skin edema and no swelling at or below the ankle. The muscular strength, amplitude, and tendon reflexes were normal. There was no tenderness and no tumefaction. The muscles felt tenser than those in the other leg but otherwise showed nothing remarkable. The overlying skin was the same as that of the other leg. A careful exploration of the involved muscles by an orthopedic surgeon revealed nothing except questionable edema in the fascial planes. Results of several biopsies were reported normal by a competent pathologist. After the biopsy, the wound healed more slowly than would be expected; however, the initial enlargement gradually receded in three weeks. The boy is husky and has felt in excellent health. No difficulty was encountered with the enlarged leg except slight stiffness. Results of urine and blood tests were normal as was the erythrocyte sedimentation rate. The patient's history is normal, except for the usual infections of childhood, which were without notable complications. At no time has there been joint involvement or any indications of so-called collagen disease. What is your opinion?*

M.D., Washington.

Answer.—This consultant once studied a case in certain respects similar to the one described. The patient complained of edema of the left lower forearm and back of the hand, which appeared in separate attacks over 24 hours as diffuse, somewhat indurated, nonerythematous, nonpruritic edema. It would occur from the midforearm to the fingers. On two occasions, the rapidity of onset necessitated the cutting off of a ring. After four or five hours, the edema was painful enough to require use of analgesics. The pain seemed to be related to overdistention of tissues, since the ends of the fingers became somewhat pale and cool during the attack. The radial pulse persisted. Once the edema formed, it took two to three weeks to subside completely. Prompt use of serial injections of epinephrine did not interrupt the onset or shorten the spells. The patient was admitted to the hospital for extensive laboratory studies. A thorough search for allergens, bacterial infection, and metabolic disorders was fruitless. The patient's attacks occurred with mental pressure. When the patient's job was changed, they ceased. The final impression was that they were some bizarre form of angioneurotic edema. No cause except a psychosomatic one could be found. The tendency for the same area of the body to be attacked repeatedly, as occurred in both patients, suggests that these two syndromes may belong to the same class of disorders.

VITREOUS HEMORRHAGE

To the Editor:—*What is the treatment for massive vitreous hemorrhage of unknown origin? In the absence of intraocular infection, would there be a possibility of posterior synechiae and would atropine be indicated immediately on the supposition that there might be infection? If so, for how long a period?*

M.D., Missouri.

Answer.—There is no adequate medical treatment for massive vitreous hemorrhage of unknown origin. Evacuation of blood by cannula or scleral incision has been helpful in some cases, but is considered an extreme measure of last resort in cases of secondary glaucoma. In the absence of intraocular infection there is the possibility of posterior synechiae, but atropine is not indicated except in the presence of subnormal intraocular pressure. Instillation of miotics and gentle massage to prevent abnormally high intraocular pressure are indicated. In cases of recurrent intraocular hemorrhages, if intraocular pressure remains normal or low, dilatation of the pupil is desirable and atropine may be used indefinitely unless signs of intolerance or toxicity appear. Atropine will not be helpful if the pupil cannot be dilated.

ROUTINE TESTS FOR ALBUMINURIA

To the Editor:—*In the routine office determination of qualitative albuminuria, please compare the heating method with the nonheating chemical methods.*

Leonard Casser, M.D., Cresskill, N. J.

Answer.—The degree of sensitivity of the common qualitative tests for the detection of proteinuria is markedly dependent on the use of clear urine and on observation of the precipitated or heat coagulated protein against a black background. Most specimens must be cleared by filtration or centrifugation before testing. Under optimum conditions, all tests are sensitive enough to detect protein at the pathological level and to avoid positive indications of the small amounts normally excreted. For routine office use, heating methods are generally preferred. The heat and acetic acid or the Purdy heat test is preferred because either is slightly more sensitive than the cold tests and, in addition, because either can be made fool-proof against other substances, such as proteoses, mucin, Bence-Jones protein, resinous and emulsifying agents, and phosphates. It is recognized that the sulfosalicylic acid test is a good one under office conditions, especially when the mixture is warmed (not boiled) to detect proteoses. It is a bit less sensitive than the heat and acetic acid test. The need is not for greater sensitivity but for the recognition of conditions in the urine that may cause false positive reactions.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

TRICHLORETHYLENE (TRILENE) ANESTHESIA

To the Editor:—*Please give the indications for and contraindications to the use of trichlorethylene (Trilene) anesthesia in obstetrics. What toxic agent is produced by the mixture of trichlorethylene with soda lime, and what is its physiological effect on the body? How soon after trichlorethylene has been used may a different anesthetic be used through the soda lime?* *Cloid D. Green, M.D., Canton, S. D.*

Answer.—Trichlorethylene should be used for analgesia only. The mixture provided by the simple inhalers on the market usually consists of 0.65% trichlorethylene in air, not sufficient for deep anesthesia. Its use is contraindicated in patients who have respiratory difficulty or cardiac decompensation, because a high oxygen saturation is an important safeguard. The various analgesic agents, such as morphine and its derivatives, meperidine (Demerol), the barbiturates, and scopolamine do not interfere with the administration of trichlorethylene, but the concomitant use of epinephrine is contraindicated. Trichlorethylene should not be used in a closed anesthetic system. In the presence of soda lime and heat (125 C), trichlorethylene may be broken down into the poisonous gas phosgene (carbonyl chloride) and hydrochloric acid. Although the circumstances under which this change can occur are extremely rare, it should be guarded against. The early signs of drug toxicity are increased respiratory rate and irregularity of the pulse. If these signs occur during administration of trichlorethylene it should be discontinued. Any anesthetic agent can be used for the delivery following use of trichlorethylene; however, a short interval should elapse so it can be exhaled completely. Although the drug passes through the placental barrier readily, it does not increase the hazard of fetal anoxia, because of its rapid elimination.

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PAIN AND SWELLING IN BOTH KNEES

To the Editor:—*A 14-year-old boy was hospitalized complaining of pain and swelling in both knees of four days' duration; he had no previous history of this nature, no history of previous respiratory infection, and no history of gonorrhea. Physical examination showed bilateral heat and effusion in both knees, which were tender to touch. Physical and electrocardiographic examination revealed no cardiac abnormalities except sinus tachycardia. The temperature ranged between 100 and 101.6 F for the first four days of salicylate therapy (8 to 10 gm. of sodium salicylate daily), then fell to normal. He improved subjectively, but the effusion and heat of both knees continued. His right knee was tapped, and 10 cc. of turbid straw-colored fluid was withdrawn. The laboratory reported "many pus cells" in the fluid, but no organisms were seen on smear or culture. Following this examination, he had a 13 day course of penicillin therapy; with omission of salicylates, low grade fever returned. There have been no changes in his cardiac status during this time, and no other joints have been affected. Is a purulent synovial effusion consistent with a diagnosis of acute rheumatic fever, or is another form of arthritis a more likely diagnosis?* *M.D., Arizona*

Answer.—A 14-year-old boy with fever and bilateral swelling of the knees has rheumatic fever until it is proved otherwise. This probability is increased by his temperature drop with salicylates and recurrence of fever during penicillin therapy. Turbid, straw-colored fluid is not necessarily purulent in character. The laboratory report of "many pus cells" also is very incomplete, as no quantitative count or differential count was made. It is therefore not possible from the laboratory report to know whether the effusion was truly purulent or not. A purulent effusion is not compatible with rheumatic fever. It is quite probable that the diagnosis is rheumatic fever and the joint fluid not purulent. Juvenile rheumatoid arthritis (Still's disease) must be considered in the diagnosis. If the boy recovers with salicylate and rheumatic fever treatment, however, the diagnosis of rheumatic fever is fairly well established. If the joint effusions are definitely purulent, then cultures should reveal the organism responsible. If cultures are positive, then sensitivity tests against various antibiotics should be made, as penicillin already has proved ineffective.

BURNING PAIN IN FOOT

To the Editor:—*A woman, 82 years of age, is in good health except for frequent burning pain in her right foot. The pain is always in the same spot in the instep, is severe, and is apt to be felt most when the patient's feet are warm. It is relieved somewhat by cooling of the foot. The skin temperature in this foot is definitely higher than that in the left foot. Arterial pulsations are unusually good for a woman of this age. Pernicious anemia has been ruled out, the gastric contents and blood picture being normal. One year ago the patient had bilateral swelling of both feet to such a degree that walking was difficult. The swelling did not extend above the ankles. There was no dyspnea or evidence of myocardial insufficiency. Foot roentgenograms were normal. The swelling subsided in two to three days with ammonium chloride therapy and elevation of the feet and has not recurred. The patient has been examined by the best peripheral vascular disease specialists in Detroit. Have you any suggestions as to diagnosis and treatment?*

M.D., Michigan.

Answer.—Burning pain in the feet relieved by cooling and elevation and aggravated by heat and dependency is due to erythromelalgia, which is a symptomatic, not an etiological, diagnosis. If polycythemia can be excluded, there remains a group of toxic, nutritional, and ischemic neuropathies that may be considered. A thorough neurological examination is desirable, since an irritative process in the sensory neurons anywhere from the thalamus to the sensory nerve endings may be present. The lesion may well be vascular, producing ischemia of the nervous system. Treatment is highly unsatisfactory. Repeated blocks of the posterior tibial nerve may be tried, but if this produces anesthesia without relief of the burning sensation, the origin of the lesion is higher and may even be due to spinal cord ischemia. Administration of large doses of acetylsalicylic acid or of vitamin B_{12} by injection or possibly even sensory nerve section at appropriate levels is necessary. If the burning pain is unrelieved by spinal anesthesia (a highly debatable procedure at the age of 82), thalamic pain sometimes may be alleviated by stellate ganglion block contralateral to the side of the lesion.

MYOCARDIAL INFARCTION

To the Editor:—*A 61-year-old man, previously in good health, had within six weeks four attacks of severe pains of a tearing, cutting, and burning character in both arms, which lasted for 15 minutes and stopped suddenly. These attacks were unrelated to effort, but, after a symptom-free interval of four weeks, pains on walking developed in the right arm, in the right shoulder region, and/or below the right scapula. The pains stop when the patient stops walking. He has tenderness in the right upper abdominal quadrant and rebound tenderness in the same area. X-ray examinations showed gallstones and osteoarthritic changes in the cervical spine. A resting electrocardiogram was normal, but an exercise test was followed by significant changes. The pains on walking can be prevented to some extent but not entirely by use of glyceryl trinitrate. Does this man have coronary disease or are the symptoms manifestations of cholecystitis and pericholecystitis, with secondary coronary insufficiency, indicating a need for surgical intervention, or is cervical osteoarthritis to be considered a cause?*

M.D., New York.

Answer.—The combination of effort pain relieved in part by use of glyceryl trinitrate and a "positive" exercise tolerance test indicate myocardial insufficiency. The description of intermittent tearing pain in both arms strongly suggests a dissecting aneurysm of the thoracic aorta; both this and the coronary artery disease may be manifestations of underlying, generalized atherosclerosis. Neither cholecystitis nor cervical osteoarthritis is unusual in this age group, and their presence is probably coincidental. It seems unlikely that they are the primary cause of this man's symptoms in the chest and arms. Cholecystitis may be responsible for the right upper abdominal quadrant and abdominal rebound tenderness.

AZOOSPERMIA

To the Editor:—*The reply to the query in* The Journal *July 18, 1953, page 1184, regarding the treatment of azoospermia is misleading. The particularly disturbing statement concerned the value of testicular biopsies and therapy based on such findings. It was said that "If the biopsies show temporary arrest due to pituitary insufficiency, injections of a potent pituitary product may be beneficial." I would like to offer four protesting points.*

1. It is impossible to diagnose a condition of "temporary arrest" of spermatogenesis on the basis of a testis biopsy alone. Conceding that there is a clinical entity of arrested spermatogenesis, the use of the term "temporary arrest" intimates a transitory state, or one that can be improved. Actually, azoospermia due to arrested spermatogenesis in the adult is a permanent condition. Cases cited in the literature of the successful hormone treatment of arrested spermatogenesis are so rare that one even doubts its attainment. For example, Simmons (Ann. New York Acad. Sc. **55**:*643, 1952) reports a case that was successful, but this man did not have spermatozoa in his semen either before or after the birth of his wife's two children. Apparently this author doubted the paternity by stating "Clinical patients cannot be as scientifically controlled as Carl Hartman's monkeys!"*

2. Again, how can one be certain that the arrested spermatogenesis is due solely to pituitary insufficiency? Factors are involved other than the pituitary function, and these cannot be evaluated solely by testis biopsies. Hormone and other studies must be made to try to arrive at the etiological basis, and even then it is not easy to determine the causative factor.

3. The term "potent pituitary product" is itself misleading. There are many pituitary-like and pituitary gonadotrophic substances available commercially, but in general these gonadotrophic substances are not purified extracts nor are they efficacious. Only recently has a truly "potent" anterior pituitary gonadotrophic substance been isolated in pure form that is highly potent; however, this product is not yet available on the commercial market.

4. Finally, it should be pointed out that injections for azoospermia, whether they be from the pituitary, testis, or other source, have hardly ever resulted in offspring. Injection therapy for azoospermia has been overdone; and injection therapy for azoospermia with present-day products must be reduced to a minimum if used at all. For example, at the recent World Congress on Fertility and Sterility in New York City in May, 1953, it was generally agreed that aside from surgical therapy in cases of a blocked vasa deferens and preventive therapy in young men, injection therapy with hormones of any type had not proved to be of any value in complete azoospermia.

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VACCINATION OF CHILD WITH ECZEMA

To the Editor:—*I would like to comment on the answer in* The Journal, *Aug. 1, 1953, page 1392, to the question of whether a child with atopic dermatitis should be vaccinated against smallpox. Your consultant states that it is not necessary to withhold smallpox vaccination in such cases. I believe that most dermatologists agree that the risk of eczema vaccinatum as a direct consequence of such vaccination far outweighs the protection afforded against the almost extinct disease smallpox. I am informed by the Los Angeles Health Department that only 16 cases of smallpox were reported in the United States in the first half of 1953. The physician should bear in mind that far from being a benign disease, eczema vaccinatum is nearly always serious and occasionally fatal. Also the absence of any specific agent such as an antibiotic for the treatment of infections caused by vaccinia virus renders the management of this disease especially difficult. The answer given is further confused by the statement that "A kaposiform eruption of the varicelloid or herpetic type may develop." This is obviously in error, since this latter disease is caused by the herpes simplex virus and bears no etiological relationship to eczema vaccinatum. In view of the heavy risk involved with only a relatively small gain in prospect, the vaccination of a child with atopic dermatitis would seem to be a risky and unreasonable procedure.*

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To the Editor:—*In* The Journal, *Aug. 1, 1953, page 1392, is an answer regarding smallpox vaccination of a child with eczema. This should be a case particularly suitable for the skeptophylactic method of vaccination described by me in the* Annals of Allergy (**9**:*85-88 [January-February] 1951), which is so-called because of the rapid evolution of the second or intradermal injection, resulting in an immune reaction rather than a primary take. Advantage is taken of the difference in incubation periods between infection in the skin and in subcutaneous tissues. The virus is injected first subcutaneously; then a week later before inflammation begins, a second injection is given intradermally. The second injection causes a papule within 24 hours, and neither becomes painful in children if Cutter's vaccine is used. There is no material to be transferred to another site. One capillary tube of virus is mixed with 1 ml. of saline solution, and 0.05 ml. is given at each injection.*

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TREATMENT OF RECTAL PROLAPSE

To the Editor:—*I would like to comment on the answer on the treatment of rectal prolapse in Queries and Minor Notes, April 18, 1953. The following statement was made: "Rectal prolapse in infants and children is mucosal in almost every instance." This has not been our observation in this section of India. The greater number of patients that we see here have a true prolapse involving all the layers of the bowel. In severe and in long standing cases in which there are changes in the bowel wall that may amount to ulceration—such cases are seen frequently in children of poor village families—we have had very good results from amputation of the prolapse, in the manner of Mikulicz, with anastomosis of the cut edges of the bowel, which then is replaced within the anus. A purse string suture of silk is placed at the anal orifice and tied loosely around a finger. This prevents the infant from straining to pass the area of anastomosis and thus cause a recurrence of the prolapse. This suture is maintained for one to two weeks, during which time the stools are kept soft. Infants stand this procedure very well, and the amount of shock is minimal. In mild and in early cases, replacement of the bowel with strapping of the buttocks has been our treatment of choice.*

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SOFTENED WATER

To the Editor:—*In Queries and Minor Notes in* The Journal, *Aug. 8, 1953, page 1498, I note a question on softened water. The process of water softening is replacing the magnesium and calcium with sodium. Hence the water has a high sodium content. That is why patients suffering from vertigo or dropsy often improve after combining distilled water with their medication.*

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